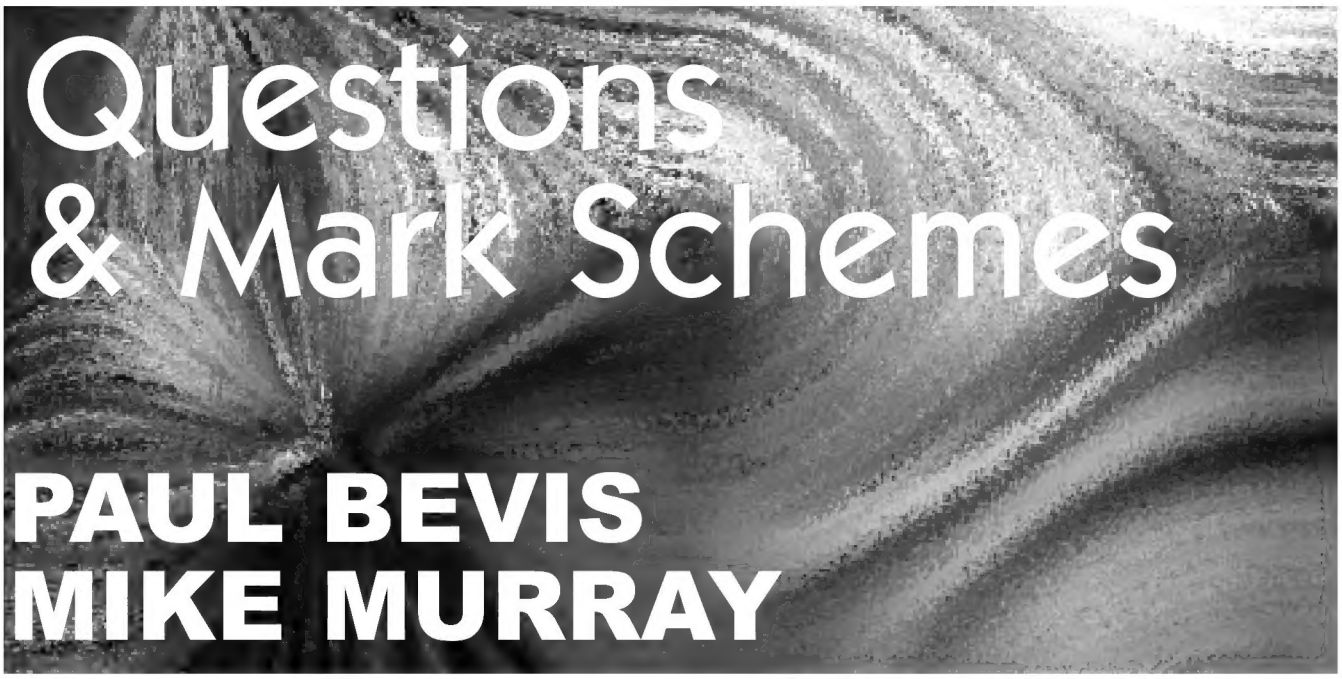
Sport & Physical Education



PAUL BEVIS
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Test Question

Part 1

'How fit are you'

Please note *This question is provided for internal assessment and practice purposes only.*

Question **Fitness Measurement**

In order to establish a starting point for the beginning of a training programme, a coach might choose to use the NCF multi-stage shuttle run test.

a **i** Describe the essential features of this test.

(3 marks)

ii Discuss whether this would be an appropriate test to use for an invasion team game.

(2 marks)

iii What are the advantages of this type of test over a step test?

(3 marks)

iv The step test however, remains a popular means of testing stamina. Suggest why this should be so.

(3 marks)

b A coach decides to use a series of fitness tests to select the players for hockey team. Discuss whether or not this is likely to lead to the selection of the most effective players.

(4 marks)

Test Question

Part 1

'How fit are you'

Mark Scheme

Please note *This question is provided for internal assessment and practice purposes only. T*

Question **Fitness Measurement**

In order to establish a starting point for the beginning of a training programme, a coach might choose to use the NCF multi-stage shuttle run test.

a **i** Describe the essential features of this test.

(3 marks)

3 marks for 3 of: The test is maximal;

and progressive;

involves a series of shuttles;

undertaken in a diminishing time period

ii Discuss whether this would be an appropriate test to use for an invasion team game.

(2 marks)

2 marks for 2 of: Yes in that it would give a general prediction of aerobic fitness/V_{O_2} Max;

No - invasion team games require short periods of intense work, followed by less intense work or recovery;

iii What are the advantages of this type of test over a step test?

(3 marks)

3 marks for 3 of: MSFT more reliable/accurate;

Because maximal rather than sub-maximal;

MSFT more valid;

because method of locomotion more related to sports performance;

also suited to all/no disadvantages due to height/leg length;

iv The step test however, remains a popular means of testing stamina. Suggest why this should be so.

(3 marks)

3 marks for 3 of: it is easy to administer;

it is not a maximal test;

good for the less fit or older;

requires little space;

no competitive elements;

b A coach decides to use a series of fitness tests to select the players for hockey team. Discuss whether or not this is likely to lead to the selection of the most effective players.

(4 marks)

4 marks for 4 of: the tests would give a fair understanding of the general fitness levels of the players;

but would unlikely to be specific enough to mirror the exact requirements of a hockey player;

therefore the tests lack validity other variables such as a lack of motivation towards a test may play a part;

therefore the test may not be reliable effective performance is a combination of skill and fitness;

less fit players may overcome this disadvantage through superior technique or tactical awareness;

Test Question

Part 2

'How do I improve my performance through fitness development?'

Please note *This question is provided for internal assessment and practice purposes only.*

Question Performers spend a great deal of time training to develop their levels of physical fitness. To make the most effective use of practice time training needs to be focussed on the needs of the performer.

a Performers need to bear in mind the principles of overload and progression when devising a training programme.

i Describe what is meant by the terms **overload** and **progression**.

(4 marks)

ii How might a performer determine the level of overload they should be using and when progression should take place?

(3 marks)

b Circuit training is a method of developing fitness. Devise a 6 station/exercise programme for general fitness development. Pay particular attention to the type of exercise included and their order. Give a **brief** description of each of the exercises.

(4 marks)

c A performer in a team invasion game has identified typical distances run during a game and their relative intensities. They have then been tested to determine the maximum pace at which they can run each of the distances. The results of the tests are given in the table below.

Distance	10m	15m	30m	50m
Intensity	100%	100%	70%	50%
Time	2s	3s	5s	7s

Using the information in the table and your knowledge of the principle of specificity devise a simple interval programme to improve their performance.

(4 marks)

Test Question

Part 2

'How do I improve my performance through fitness development?'

Mark Scheme

Question Performers spend a great deal of time training to develop their levels of physical fitness. To make the most effective use of practice time training needs to be focussed on the needs of the performer.

a Performers need to bear in mind the principles of overload and progression when devising a training programme.

i Describe what is meant by the terms overload and progression.

(4 marks)

Marks awarded for the following:

Overload:

1 mark for a level of work above normal;
1 mark for at which the performer is stressed;

Progression:

1 mark for as the body's systems adapt to the stresses placed upon it;
1 mark for the intensity/duration of work must be increased.

ii How might a performer determine the level of overload they should be using and when progression should take place?

(3 marks)

3 marks for 3 of: by testing the performer prior to designing the programme;
to set a baseline level;
then by re-testing after a period of training;
to see if the level of fitness has improved;

b Circuit training is a method of developing fitness. Devise a 6 station/exercise programme for general fitness development. Pay particular attention to the type of exercise included and their order. Give a brief description of each of the exercises.

(4 marks)

Marks awarded for the following:

1 mark for: Use of an appropriate range of exercises;

1 mark for: Setting the exercises in the correct order;

2 marks for: Accurate description of the six exercises.

c A performer in a team invasion game has identified typical distances ran during a game and their relative intensities. They have then been tested to determine the maximum pace at which they can run each of the distances. The results of the tests are given in the table below.

Distance	10m	15m	30m	50m
Intensity	100%	100%	70%	50%
Time	2s	3s	5s	7s

Using the information in the table and your knowledge of the principle of specificity devise a simple interval programme.

(4 marks)

Marks awarded for the following:

1 mark for: Setting a range of distances to be run in the work periods;

1 mark for: Using the intensity figure in determining the time which each of the work distances should be run;

1 mark for: Identifying that the recovery period relates to the work period through some form of ratio;

1 mark for: Identifying that the recovery period must contain some form of activity;

Test Question

Part 4

'Concepts and Definitions?'

Question Play and leisure seem to be necessary for the development of human beings as individuals.

a Both children and adults may engage in play activities

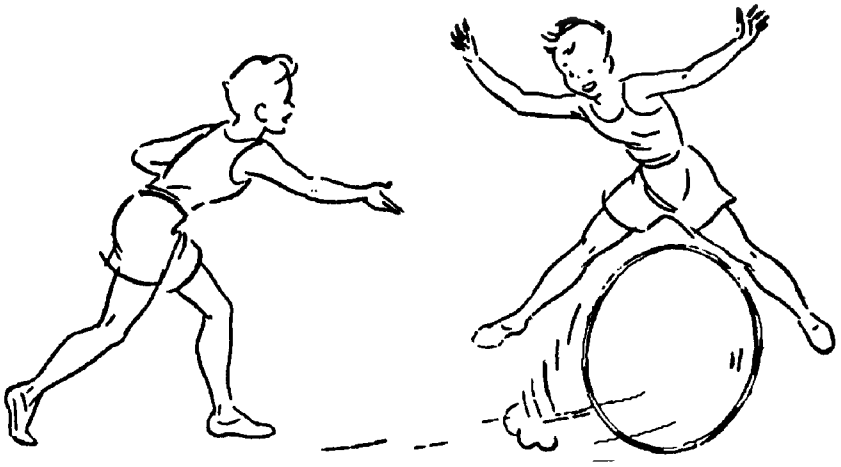
i A group of children are playing hide and seek. How does an activity like this display the characteristics of play?

(3 marks)

ii In terms of need how does adult play differ from child's play?

(2 marks)

b The picture below of children playing with a hoop is taken from the 1953 publication 'Moving and Growing'



i How was it suggested that play could be used in the physical education programmes in that publication?

(3 marks)

ii How did the syllabus of the 1950's differ from that of the early 1900's in terms of the **activities used** and the **role of the teacher**?

(4 marks)

c Today many people have the opportunity to participate in a range of leisure activities.

i What is leisure?

(2 marks)

ii What might influence a child's progress from a play activity to regular active leisure?

(4 marks)

Test Question

Linked to Part 4
'Concepts and Definitions?'
Mark Scheme

Question Play and leisure seem to be necessary for the development of human beings as individuals.

a Both children and adults may engage in play activities

i A group of children are playing hide and seek. How does an activity like this display the characteristics of play?

(3 marks)

Marks awarded for the following:

3 marks for 3 of:
it embodies fun/enjoyment/non-serious;
rules are negotiated/variable;
has no extrinsic reward;
played within natural confines/no set boundaries;
decisions are made through agreement/discussion;
players may leave/come/no set numbers;

ii In terms of need how does adult play differ from child's play?

(2 marks)

Marks awarded for the following:

2 marks for 2 of:
it is a form of escape from reality;
whereas child's play is about mastering reality

b The picture below is taken from the 1953 publication 'Moving and Growing'

i How was it suggested that play could be used in the physical education programmes in that publication?

(3 marks)

Marks awarded for the following:

3 marks for 3 of: to engage children in activities that were enjoyable in their own right;

movement done for pleasure;

learning through experimentation/spontaneity;

not linked to a set movement pattern/flexible outcome;

no external movement standards to be achieved/intrinsic rather than extrinsic;

child centred approach

ii How did the syllabus of the 1950's differ from that of the early 1900's in terms of the activities used and the role of the teacher?

(4 marks)

4 marks for 4 of: max 2 per section

(section one activities used)

1900's	*1950's*
drill/marching	dance/movement
free standing exercises	games skills
focus on therapeutic work	fun/creativity

(section two role of the teacher)

1900's	*1950's*
imposed discipline	to ensure safety
to command and direct	more discovery style
expecting all children to work at same level	observational/amending lesson based upon children's responses
to deliver set lesson/proscribed by authorities	to plan own work

c Today many people have the opportunity to participate in a range of leisure activities.

i What is leisure?

(2 marks)

2 marks for 2 of

time for recreation/recovery/stress reduction;

opportunities to exercise choice over use of time/activity;

opportunity for self-development/realisation;

time free from obligations;

ii What might influence a child's progress from a play activity to regular active leisure?

(4 marks)

4 marks for 4 of:

opportunity in terms of access/finance/ or eq;

parental influences/interests;

enjoyment/success of activity;

feelings of self worth within the activity;

peers;

role models;

ability to accept more formal structures/rules;

Linked Test Question

Linked to Part 5

'Is leisure a luxury or a necessity?'

Question In our modern world leisure and recreation are considered to be valuable activities for both adults and children.

a A father is playing badminton with his children in their garden.

i Are all these people engaged in a 'leisure' activity? Give reasons for your answer.

(3 marks)

ii What may the children be gaining from the activity?

(3 marks)

b People will often develop from an occasional activity to regular participation

i The children in (a) wish to take up badminton more seriously. What part might their local authority play in helping them to do this?

(3 marks)

ii In their next school assembly the children give a presentation about badminton and encourage all their classmates to take up the game. What factors might influence whether or not they do so?

(4 marks)

iii Some national lottery funding has been allocated to the development of leisure facilities. How can this spending be justified in terms of a benefit to **society**?

(4 marks)

Linked Test Question

Linked to Part 5
'Is leisure a luxury or a necessity?'
Mark Scheme

Question In our modern world leisure and recreation are considered to be valuable activity for both adults and children.

a A father is playing badminton with his children in their garden.

i Are all these people engaged in a 'leisure' activity? Give reasons for your answer.

(3 marks)

3 marks for 3 of: the children are engaged in leisure but the father is not;
children are engaged voluntarily/they have chosen to participate;
it is in their own time/free from obligations;
they may be freely expressing themselves/being creative;
the father may be participating from a sense of obligation/part of a father's duties;
although it may be argued that the father is also engaged in relaxation/recreation.

ii What may the children be gaining from the activity?

(3 marks)

3 marks for 3 of: (physical benefits) development of skill/exercise or eq;
development of relationship with father/parent;
(social benefits) learning of relationship' rules'/acceptance of fair play or eq;
development of creativity/becoming self fulfilled;

NB do not accept references to escape from stress/cathartic type answers these are not relevant to children in this situation.

b People will often develop from an occasional activity to regular participation

i The children in (a) wish to take up badminton more seriously. What part might their local authority play in helping them to do this

(3 marks)

3 marks for 3 of: provision of facilities/sports hall or eq;
provision of information about opportunities/advertising or eq;
provision of coaching opportunities;
as an information store for local clubs etc;
provision of taster sessions etc;

NB discourage references to setting up leagues/providing competition etc as these are not normally undertaken by local authorities.

ii. In their next school assembly the children give a presentation about badminton and encourage all their classmates to take up the game. What factors might influence whether or not they do so?

(4 marks)

4 marks for 4 of: support from their parents/relations;
financial considerations/cost of equipment/court time/membership fees etc;
support from the school/encouragement/information about where to participate;
attitudes of peers;
whether or not badminton is included in the school PE programme;
local opportunity or provision;
national status of the activity/level of press coverage etc.

iii Some national lottery funding has been allocated to the development of leisure facilities. How can this spending be justified in terms of a benefit to **society**?

(4 marks)

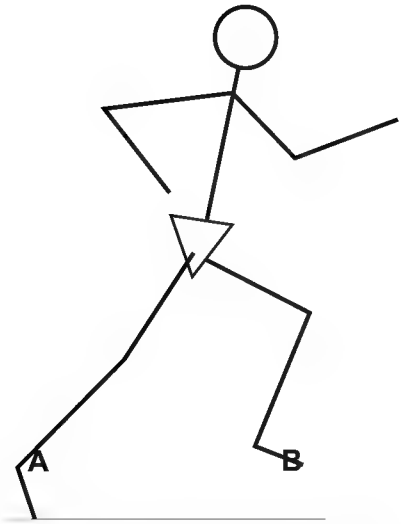
4 marks for 4 of: may produce a physically healthier/fitter society;
may lower levels of social/psychological stress;
reduced levels of crime/anti-social behaviour;
may lead to enhanced levels of elite performance/national pride;
allows provision for less well off members of society;
may regenerate areas/raise self-esteem etc.

Linked Test Question

Linked to Part 6
'Movement Analysis'

Question 1

a Consider the pin diagram of an athlete running, shown below.



i) Name the different types of synovial joint found at the ankle, knee and hip.

(3 marks)

ii What are the actions taking place at the ankle, knee and hip joints as the athlete's leg A drives off from the floor?

(3 marks)

iii Which bones articulate at the ankle, knee and hip joints?

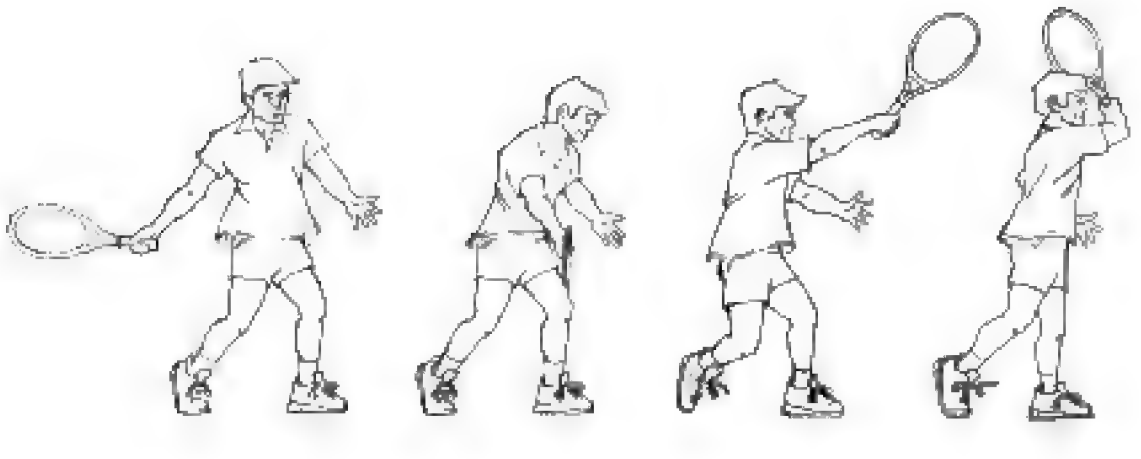
(3 marks)

iv What muscles are causing the movement patterns that occur at the hip, knee and ankle joints between the leg shown in position **B** and the leg in position **A**?

3 marks

Question 2

The tennis player shown below is performing a forehand stroke.



a b c d

a Name three prime movers acting in the shoulder and trunk region when completing this stroke.

_____

_____

(3 marks)

continued....

b Classify the movement taking place at

i the shoulder joint from stages a-d;

(1 mark)

ii the elbow from stages c-d;

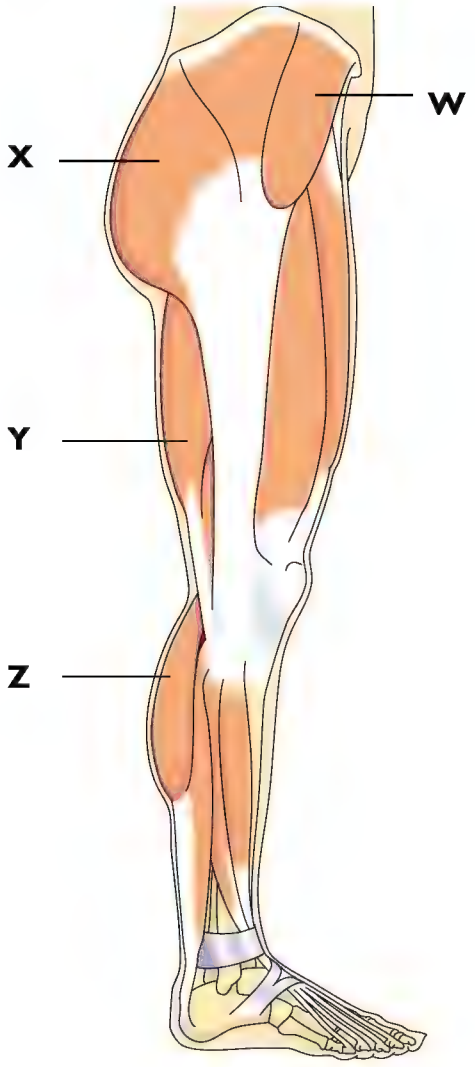
(1 mark)

iii the forearm from stages b-d.

(1 mark)

Question 3

a Identify those muscles labelled w, x, y and z in the diagram below:



continued....

W

X

Y

Z

(4 marks)

b With reference to the muscles named in part (a), what actions do each of these produce?

W

X

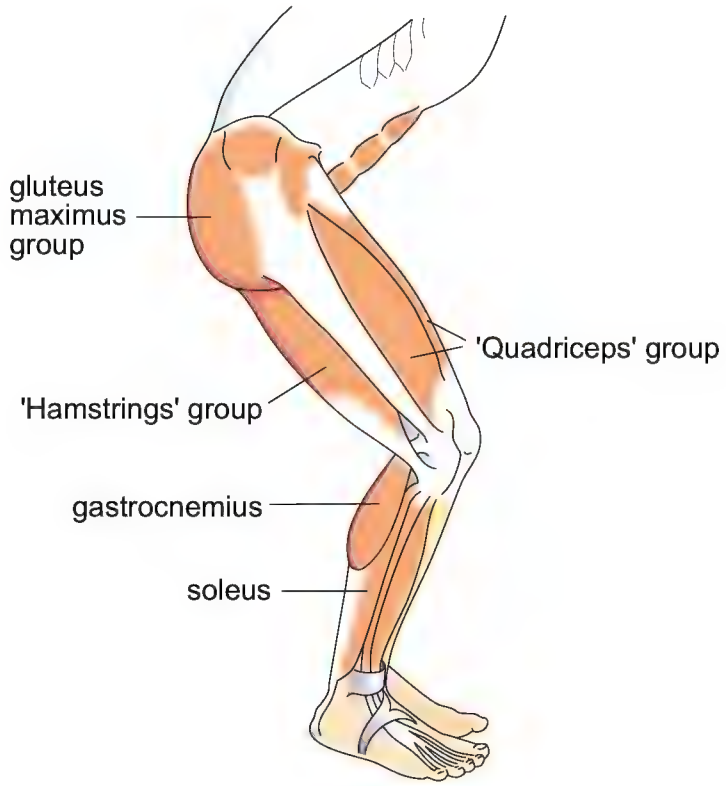
Y

Z

(4 marks)

Question 4

The diagram shows the major muscle groups involved in the upward and downward movement of a 'squat'.



continued....

a What are the roles of the major muscles labelled when performing:

i the downward phase of the movement;

(3 marks)

ii the upward phase of the movement?

(3 marks)

continued....

b When a footballer is kicking a ball, there is an initial preparatory phase of moving the leg back, and this is followed by the dynamic, kicking phase. Explain the action of the different muscle groups involved at each joint in:

i moving the leg back in the preparatory phase;

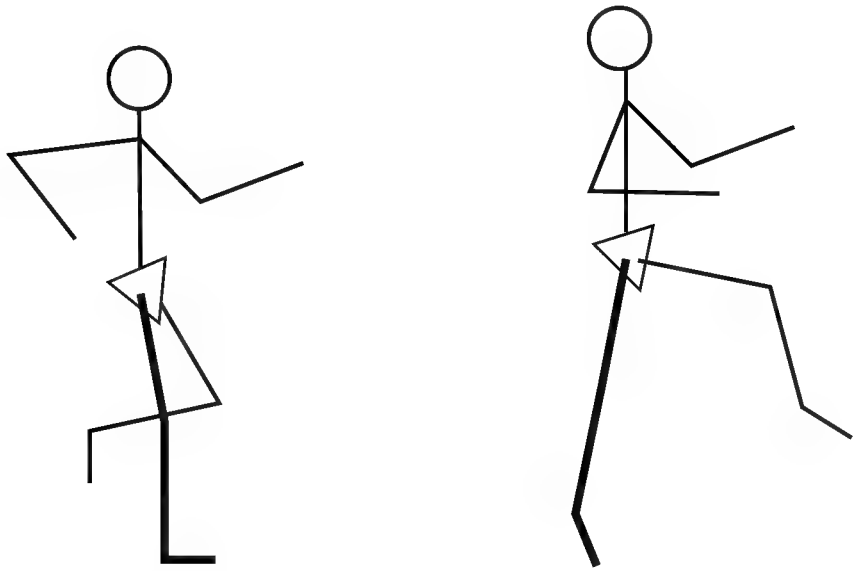
(5 marks)

ii moving the kicking leg forward to kick the ball.

(3 marks)

Question 5

a The following figure shows an athlete in the take off phase of the long jump.



i What actions are taking place at the hip, knee and ankle joints of the take-off leg (thickened line)?

(3 marks)

continued....

ii Name the two main agonist muscles involved at the hip joint during the action shown.

(2 marks)

iii What type of muscular contraction is taking place in these muscles?

(1 mark)

b

i Name the major muscle involved in the upward phase of a push up (press up) and its insertion point.

(2 marks)

Describe the series of arm actions, including the names of the muscles concerned, when the body performs a push-up (press-up)

ii from a straight arm position to bent arm, and

(3 marks)

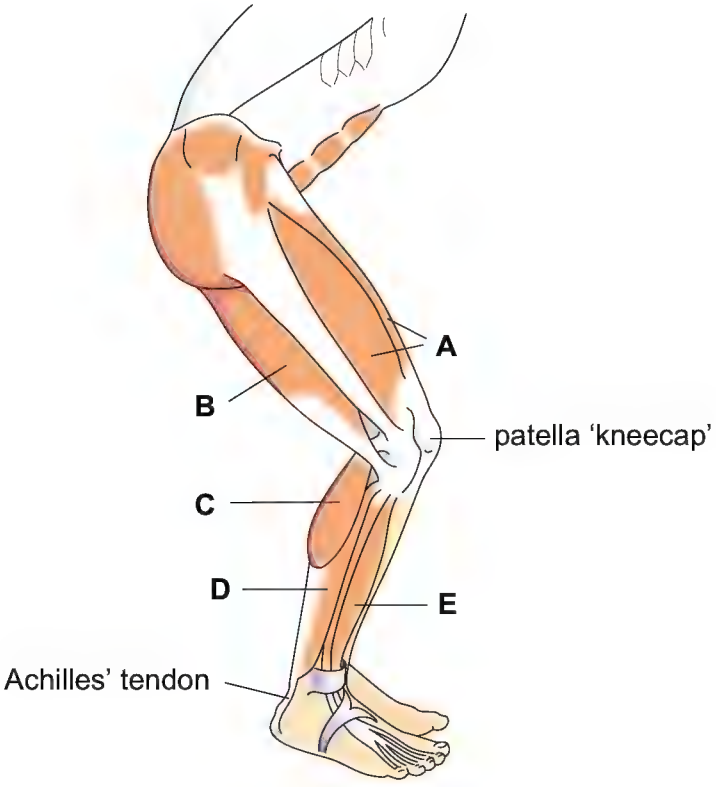
iii back to straight arm.

(3 marks)

Question 6

a Figure 1 shows the muscles of the leg.

Identify those muscles labelled A-E



continued....

A

B

C

D

E

(5 marks)

b Describe how the major muscles work during

i The upward phase, and

ii the downward phase of a squat.

(6 marks)

Question 7

a The picture shows a basketball player taking a jump shot.

i List the bones that articulate in the hip and knee joints.

(4 marks)

ii Name the type of synovial joint located at the knee.

(1 mark)

iii What are the actions occurring at the knee and ankle joints during the take off phase of the jump shot in basketball?

(2 marks)

iv During this movement, name the muscles acting as the main agonists at the knee joint and the ankle joint.

(2 marks)

b

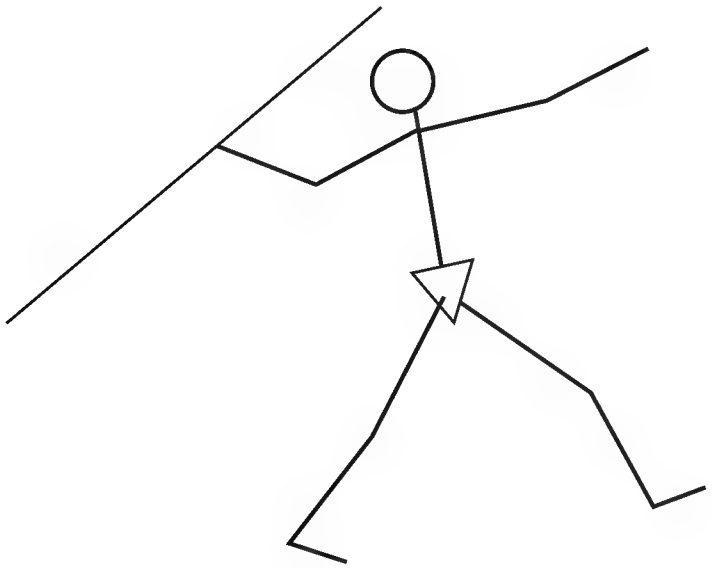
i What actions take place at the elbow and wrist during the action of shooting the basketball?

(2 marks)

ii Name the types of joint found at the wrist and elbow and the names of the main agonists.

(4 marks)

Question 8 The diagram below represents a javelin thrower



a

i Which bones articulate at the shoulder and at the elbow?

_____

_____

(4 marks)

continued....

ii Which movement actions are occurring at the shoulder and at the elbow?

(2 marks)

iii Which muscles are acting as agonists during these actions?

(2 marks)

b

i Describe the movements that are possible at the ankle, knee and hip joints.

(5 marks)

ii Name the main agonist that causes each of the movements that you have described in part **b i**.

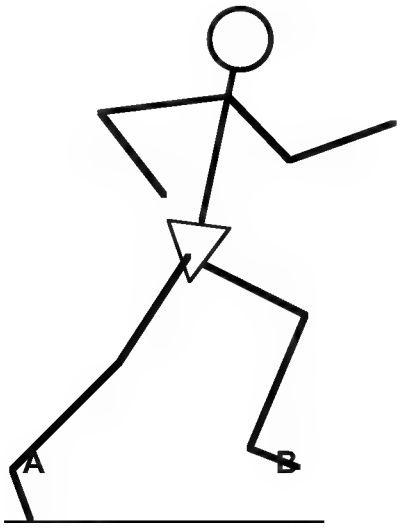
(9 marks)

Test Question

Part 6
'Movement Analysis'
Mark Schemes

Question 1

a Consider the pin diagram of an athlete running, shown below.



i Name the different types of synovial joint found at the ankle, knee and hip.

1 mark for: Ankle - hinge;

1 mark for: Knee - hinge;

1 mark for: Hip - ball and socket;

(3 marks)

ii What are the actions taking place at the ankle, knee and hip joints as the athlete's leg A drives off from the floor?

1 mark for: Knee - extension;

1 mark for: Ankle - plantar flexion;

1 mark for: Hip - hyperextension;

(3 marks)

iii Which bones articulate at the ankle, knee and hip joints?

1 mark for: Ankle - calcaneus and tibia;

1 mark for: Knee - femur and tibia;

1 mark for: Hip - femur and pelvis/pelvic girdle/ilium;

(3 marks)

iv What muscles are causing the movement patterns that occur at the hip, knee and ankle joints between the leg shown in position **B** and the leg in position **A**?

1 mark for: Hip - gluteals/gluteus maximus/hamstrings/ biceps femoris/semitendinosus/semimembraneosus;

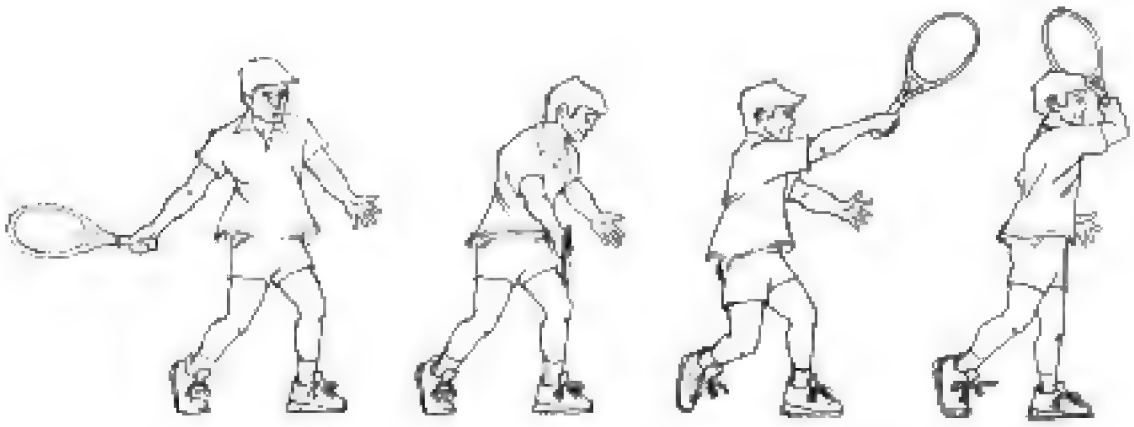
1 mark for: Knee - quadriceps/rectus femoris/ vastus lateralis/vastus medialis;

1 mark for: Ankle - gastrocnemius;

(3 marks)

Question 2

The tennis player shown below is performing a forehand stroke.



a b c d

a Name three prime movers acting in the shoulder and trunk region when completing this stroke.

3 marks for: Shoulder - deltoids/pectoralis major;

Trunk - external obliques/rectus abdominus;

(3 marks)

continued....

b Classify the movement taking place at

i the shoulder joint from stages a-d;

1 mark for: horizontal flexion/rotation/horizontal adduction;

(1 mark)

ii the elbow from stages c-d;

1 mark for: flexion;

(1 mark)

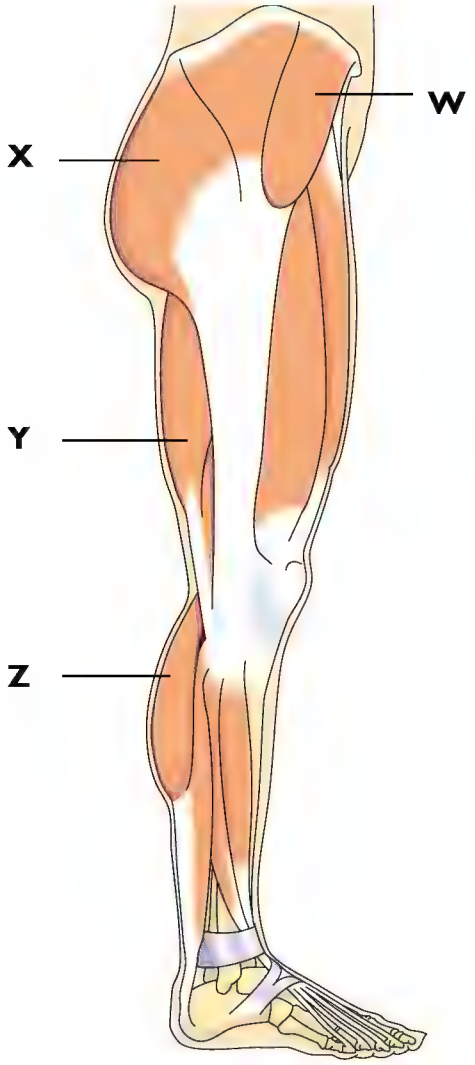
iii the forearm from stages b-d.

1 mark for: rotation/pronation;

(1 mark)

Question 3

a Identify those muscles labelled w, x, y and z in the diagram below:



continued....

1 mark for: **W** tensor fasciae latae;

1 mark for: **X** gluteus maximus;

1 mark for: **Y** 'Hamstrings';

1 mark for: **Z** gastrocnemius;

(4 marks)

b With reference to the muscles named in part **a**, what actions do each of these produce?

1 mark for: **W** tensor fasciae latae - hip flexion/leg abduction;

1 mark for: **X** gluteus maximus - leg extension/hyperextension;

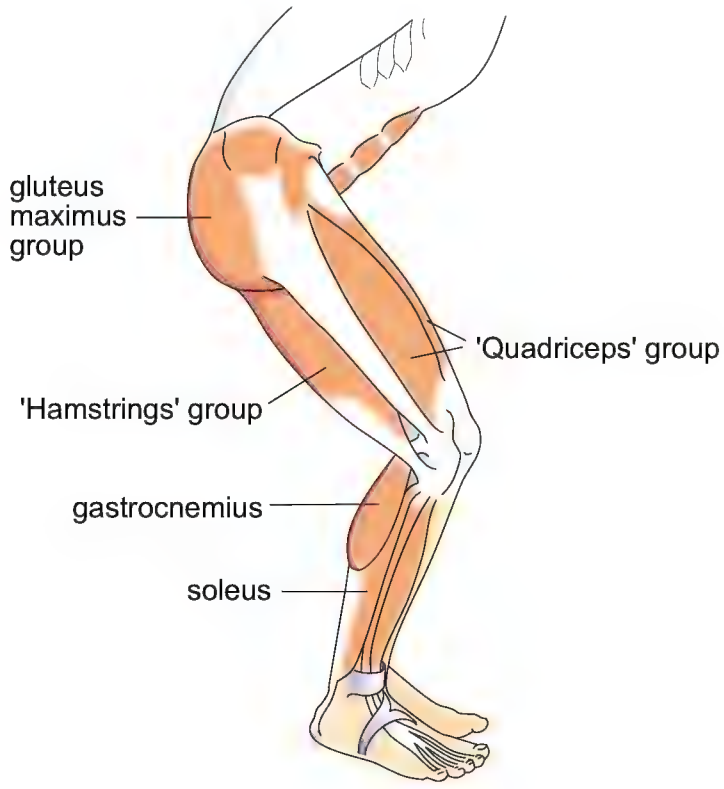
1 mark for: **Y** 'Hamstrings' - leg extension/hyperextension;

1 mark for: **Z** gastrocnemius - ankle plantar flexion;

(4 marks)

Question 4

The diagram shows the major muscle groups involved in the upward and downward movement of a 'squat'.



continued....

a What are the roles of the major muscles labelled when performing:

i the downward phase of the movement;

3 marks for 3 of:

Agonist at knee is quadriceps/
rectus femoris/vastus medialis/vastus lateralis;
Agonist at hip is gluteus maximus/hamstrings/
biceps femoris/semitendinosus/semimembranosus;
Agonist at ankle is gastrocnemius;
Eccentric contractions;
Controlling descent over gravity;

(3 marks)

ii the upward phase of the movement?

3 marks for 3 of:

Agonist at knee is quadriceps/
rectus femoris/vastus medialis/vastus lateralis;
Agonist at hip is gluteus maximus & hamstrings/
biceps femoris/semitendinosus/semimembranosus;
Agonist at ankle is gastrocnemius;
Concentric contractions;

(3 marks)

continued....

b When a footballer is kicking a ball, there is an initial preparatory phase of moving the leg back, and this is followed by the dynamic, kicking phase. Explain the action of the different muscle groups involved at each joint in:

i moving the leg back in the preparatory phase;

5 marks for 5 of:

Hip - agonist is gluteus maximus/hamstrings
/biceps femoris/semitendinosus/semimembranosus;
Action is extension/hyperextension;
Knee - agonist is hamstrings/
biceps femoris/semitendinosus/semimembranosus;
Action is flexion;
Action at ankle is plantar flexion;
Agonist is gastrocnemius;

(5 marks)

ii moving the kicking leg forward to kick the ball.

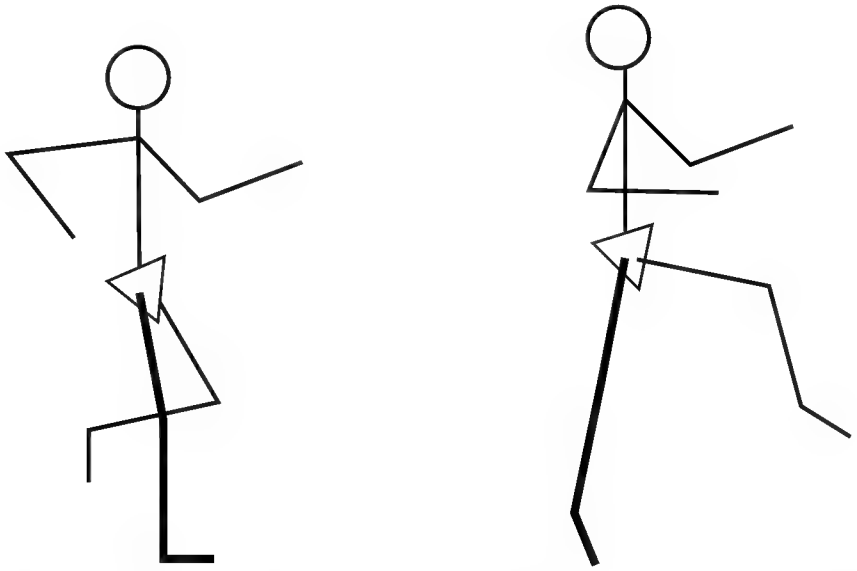
3 marks for 3 of:

Hip flexion - quadriceps/
rectus femoris/vastus medialis/vastus lateralis /
hip flexors/iliopsoas;
Knee extension - quadriceps/
rectus femoris/vastus medialis/vastus lateralis;
Ankle - remains plantar flexed - gastrocnemius;

(3 marks)

Question 5

a The following figure shows an athlete in the take off phase of the long jump.



i What actions are taking place at the hip, knee and ankle joints of the take-off leg (thickened line)?

1 mark for: Hip - hyperextension;

1 mark for: Knee - extension;

1 mark for: Ankle - plantar flexion;

(3 marks)

continued....

ii Name the two main agonist muscles involved at the hip joint during the action shown.

2 marks for: hamstrings/
biceps femoris/semitendinosus/semimembraneosus;
gluteus maximus;

(2 marks)

iii What type of muscular contraction is taking place in these muscles?

concentric/isotonic;

(1 mark)

b

i Name the major muscle involved in the upward phase of a push up (press up) and its insertion point.

1 mark for: triceps brachii;
1 mark for: ulna/olecranon process;

(2 marks)

Describe the series of arm actions, including the names of the muscles concerned, when the body performs a push-up (press-up)

ii from a straight arm position to bent arm, and

3 marks for 3 of: eccentric contraction;
triceps brachii;
flexion;
against gravity;

(3 marks)

iii back to straight arm.

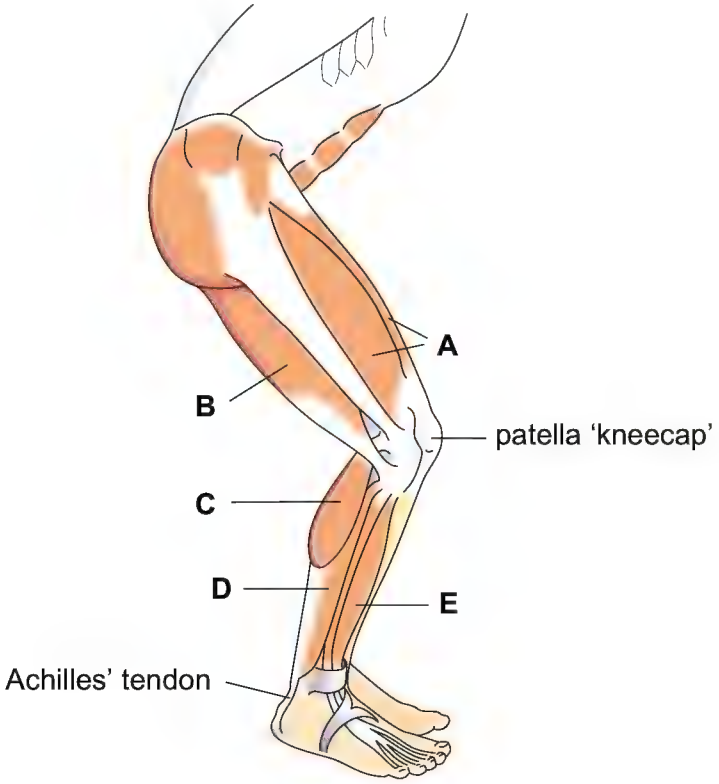
1 mark for 1: concentric contraction;
1 mark for 1: triceps brachii;
1 mark for 1: extension;

(3 marks)

Question 6

a Figure 1 shows the muscles of the leg.

Identify those muscles labelled A-E



continued....

1 mark for: **A** quadriceps/
rectus femoris/vastus medialis/vastus lateralis;

1 mark for: **B** hamstrings/biceps femoris;

1 mark for: **C** gastrocnemius;

1 mark for: **D** soleus;

1 mark for: **E** tibialis anterior;

(5 marks)

b Describe how the major muscles work during

i The upward phase, and

1 mark for: concentric contractions;

1 mark for: knee – quadriceps/rectus femoris/
vastus medialis/vastus lateralis is agonist;

1 mark for: ankle – gastrocnemius is agonist;

ii the downward phase of a squat.

1 mark for: eccentric contractions;

1 mark for: Knee – quadriceps/rectus femoris/
vastus medialis/vastus lateralis;

1 mark for: Ankle – gastrocnemius;

(6 marks)

Question 7

a The diagram shows a basketball player taking a jump shot.

i List the bones that articulate in the hip and knee joints.

4 marks for: hip - pelvis/pelvic girdle;
and femur;
knee - femur;
and tibia;

(4 marks)

ii Name the type of synovial joint located at the knee.

1 mark for: hinge joint;

(1 mark)

iii What are the actions occurring at the knee and ankle joints during the take off phase of the jump shot in basketball?

1 mark for: knee - extension;
1 mark for: ankle - plantar flexion;

(2 marks)

iv During this movement, name the muscles acting as the main agonists at the knee joint and the ankle joint.

1 mark for: knee - quadriceps;
1 mark for: ankle - gastrocnemius;

(2 marks)

b

i What actions take place at the elbow and wrist during the action of shooting the basketball?

1 mark for: elbow - extension;
1 mark for: wrist - flexion;

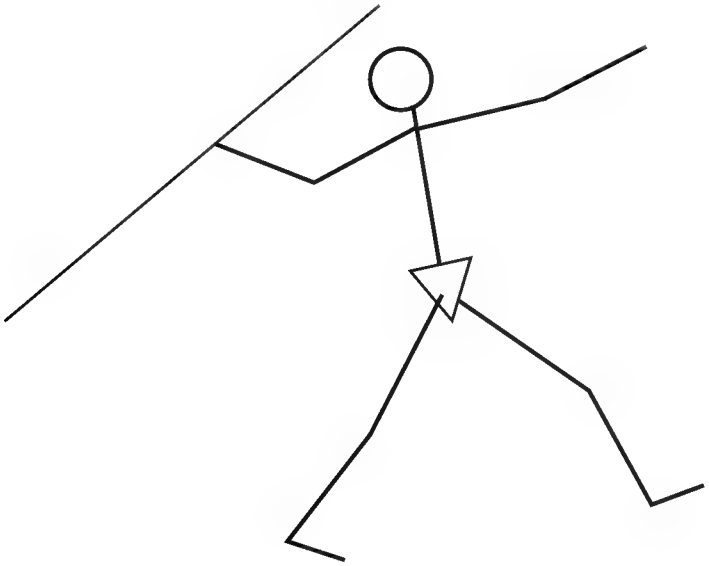
(2 marks)

ii Name the type of joint found at the wrist and elbow and the names of the main agonists.

1 mark for: wrist - condyloid;
1 mark for: elbow - hinge;
1 mark for: wrist agonists - wrist flexors/palmaris longus/
flexor carpi radialis/flexor carpi ulnaris;
1 mark for: elbow - triceps brachii;

(4 marks)

Question 8 The diagram below represents a javelin thrower



a

i Which bones articulate at the shoulder and at the elbow?

1 mark for: shoulder - scapula;

1 mark for: and humerus;

1 mark for: elbow - humerus;

1 mark for: and ulna;

(4 marks)

continued....

ii Which movement actions are occurring at the shoulder and at the elbow?

1 mark for: shoulder - horizontal flexion/horizontal adduction;

1 mark for: elbow - flexion;

(2 marks)

iii Which muscles are acting as agonists during these actions?

1 mark for: shoulder - deltoids/pectoralis major;

1 mark for: elbow - biceps brachii;

(2 marks)

b

i Describe the movements that are possible at the ankle, knee and hip joints.

1 mark for: ankle - plantar and dorsi flexion;

1 mark for: knee - flexion and extension;

1 mark for: hip - abduction and adduction;

1 mark for: flexion and extension/hyperextension;

1 mark for: rotation;

(5 marks)

ii Name the main agonist that causes each of the movements that you have described in part **b i)**.

1 mark for: ankle plantar flexion - gastrocnemius;

1 mark for: ankle dorsi flexion - Tibialis anterior;

1 mark for: knee flexion - rectus femoris/vastus medialis/ vastus lateralis;

1 mark for: knee extension - biceps femoris/ semitendinosus/semimembraneosus;

1 mark for: hip flexion - iliopsoas/rectus femoris;

1 mark for: hip extension - gluteus maximus;

1 mark for: hip abduction - gluteus medius/gluteus minimus;

1 mark for: hip adduction - adductor longus/adductor brevis/ adductor magnus;

1 mark for: hip rotation - iliopsoas/gluteus maximus/ gluteus medius/gluteus minimus/ adductor longus/ adductor brevis/adductor magnus;

(9 marks)

Test Question

Part 7

'Solo rock climbers - fools, heroes or gymnasts?'

Question 1 Adventure activities appeal to individuals, groups and schools. The nature of the activities allow for a wide range of participation.

a A group of friends, of mixed experience are canoeing a river for the first time.

i Describe how this activity can provide **adventure** and **challenge** for the group.

(3 marks)

ii In terms of this situation describe what is meant by **subjective risk** and **objective risk**.

(4 marks)

b A school party is also using the river at this time.

i What educational objectives may be met by the children engaging in this activity?

(4 marks)

ii Mortlock considered that there were stages in an adventure experience:-

Play / Adventure / Frontier Adventure / Misadventure

What stages would be appropriate for a school group and a group of highly experienced and skilled participants and how do they relate to our concepts of risk?

(7 marks)

Question 2 Outdoor recreation or adventure activities usually take place in the natural environment.

a In some National Parks the most well known mountain peaks have had pathways reinforced and the route well signposted. This is known as 'honeypotting'

i Why is this process undertaken?

(4 marks)

ii Some environmentalists believe wild country should be preserved by restricting general public access and not by 'honeypotting'. Do you agree with this statement?

(5 marks)

b Adventure activities are included in the Physical Education National Curriculum.

i Not all schools have easy access to a wild environment. How might a school provide adventure activities for all within the curriculum?

(3 marks)

ii Do you think that urban adventure activities can take the place of adventure activities in the natural or wild environment?

(4 marks)

Question 3

a Tobogganing, or the bobsleigh, is a Winter Olympic event.

i In terms of its characteristics how does the Olympic event differ from the play activity?

(4 marks)

ii Would it be true to say that the participants in the Olympic event are engaged in leisure? Give reasons for your answer.

(4 marks)

b Tobogganing has its roots in winter outdoor pursuits as an adventure activity. Does the Olympic event still have any of the characteristics of tobogganing as an adventure activity? Give reasons for your answer.

(5 marks)

Test Question

Part 7

'Solo rock climbers - fools, heroes or gymnasts?'

Mark Scheme

Question 1 Adventure activities appeal to individuals, groups and schools. The nature of the activities allow for a wide range of participation.

a A group of friends, of mixed experience are canoeing a river for the first time.

i Describe how this activity can provide adventure and challenge for the group.

(3 marks)

3 marks for 3 of, max 2 per section:

(adventure)
adventure may be provided as the group do not know clearly what to expect;
the natural environment may place them in a degree of danger

(challenge)
it forms a challenge because the group need to overcome the problem set by the natural environment;
the group/individuals are not certain how they will react to the problems posed by the river;
there is therefore a challenge for them to overcome their own responses to the situation.

ii In terms of this situation describe what is meant by subjective risk and objective risk.

(4 marks)

4 marks for 4 of, max 2 per section:

(objective risk)
the risk/danger provided by the river/change in weather/unexpected rocks etc;
objective risk is less predictable/less in control by the participants;

(subjective risk)
the group are of mixed experience/have mixed level of skills;
they will react to the situations posed by the river in different ways;
certain situations/rapids/change in flow will cause varying degrees of difficulty for each participant;
this can therefore be more predictable/controllable for the group;

b A school party is also using the river at this time.

i What educational objectives may be met by the children engaging in this activity?

(4 marks)

4 marks for 4 of:

the challenge provided may lead to self-realisation;
and in overcoming those challenges may lead to self development/fulfilment;
through a better understanding of individual strengths/weaknesses/potential;
the children may also experience leadership demands/feelings of responsibility for others;
and the need to work as a group/trust others to overcome difficulties;
and development of decision making skills;

ii Mortlock considered that there were stages in an adventure experience:-

Play / Adventure / Frontier Adventure / Misadventure

What stages would be appropriate for a school group and a group of highly experienced and skilled participants and how do they relate to our concepts of risk?

(7 marks)

7 marks for 7 of, max 4 per section:

(Stages)

neither group should get to the stage of misadventure;
the school group would move from play to adventure;
but would need to operate within a controlled setting where actual risk to any participant is low;
the experienced group would seek to move to the frontier stage;
where the problems posed are unknown/less well known;
thereby providing more challenge;

(Risk)

For the school group objective risk is kept low;
the challenge/sense of adventure is provided by subjective danger/lack of wonderment/wonderment etc;
the situation is unknown to them but known to the leader/predictable by the leader;
the frontier adventure stage provided more objective risk;
this creates the sense of challenge/excitement for this group;
their situation is less predictable therefore more challenging.

Question 2 Outdoor recreation or adventure activities usually take place in the natural environment.

a In some National Parks the most well known mountain peaks have had pathways reinforced and the route well signposted. This is known as 'honeypotting'

i Why is this process undertaken?

(4 marks)

4 marks for 4 of:

the popular mountains/paths have become worn/eroded by the weight of visitor numbers;
the reinforcement therefore prevents further damage/erosion;
ensures that the mountain remains less spoilt/accessible for future users;
the maintenance of footpaths also enhances safety for less experienced walkers;
as does the signposting of routes;
which also makes the mountains/hills/parks more accessible to a wider range of users/participants;
improved access may also improve understanding of the need to appreciate/protect the natural environment.

ii Some environmentalists believe wild country should be preserved by restricting general public access and not by 'honeypotting'. Do you agree with this statement?

(5 marks)

5 marks for 5 of, max 3 per section:

(Yes)
wild country needs to be preserved for wild life/preservation of natural habitats;
this can often only be done by restricting access;
experienced walkers/mountaineers have the skills to use the natural environment 'untamed';
do not need 'safe paths' or way marked routes;

(No)
upland areas/national parks etc are a national resource/public resource and should be available to all;
not all people can access without support – the aged/infirm or those with disabilities;
if access restricted less opportunity for educating people about the environment;
by opening access of popular areas to a wider range other areas not visited as much and have less visitor 'pressure';

b Adventure activities are included in the Physical Education National Curriculum.

i Not all schools have easy access to a wild environment. How might a school provide adventure activities for all within the curriculum?

(3 marks)

3 marks for 3 of:

set up adventure 'circuits in gymnasiums/sports halls;
use rock-climbing walls;
urban parks for activities such as orienteering;
inland lakes/canals/rivers for canoeing/sailing;
adventure playgrounds;
artificial ski slopes;

ii Do you think that urban adventure activities can take the place of adventure activities in the natural or wild environment?

(4 marks)

4 marks for 4 of, max 2 per section:

(Yes)
it can provide for the development of skills;
can place children in unfamiliar/challenging surroundings;
could therefore provide a level of subjective risk;
and feelings of adventure/challenge;

(No)
it is clear to the children that the risk is highly controlled;
recognised as not being the real thing;
may be dependent upon the activity – climbing walls can invoke feelings of fear/tension/excitement;

Question 3

a Tobogganing, or the bobsleigh, is a Winter Olympic event.

i In terms of its characteristics how does the Olympic event differ from the play activity?

(4 marks)

4 marks for 4 of:

the Olympic event is a sport;
(therefore differs by)
having stringent organisation;
requiring high levels of skill/fitness/exertion;
performers may well be seeking external rewards;
players bound by externally set rules;
participants are highly committed;
will be striving for excellence.

ii Would it be true to say that the participants in the Olympic event are engaged in leisure? Give reasons for your answer.

(4 marks)

4 marks for 4 of:

1 mark for: in general no;

and max 2 per section

(No)
it is not likely to offer relaxation/recuperation;
and little freedom of choice once committed;

(Perhaps)
but will be self-fulfilling/realizing;
and can develop social relationships;
and play a socialisation role.

b Tobogganing has its roots in winter outdoor pursuits as an adventure activity. Does the Olympic event still have any of the characteristics of tobogganing as an adventure activity? Give reasons for your answer.

(5 marks)

5 marks for 5 of max 4 per section:

(Yes)
the activity still provides a challenge;
and there is a clear element of danger;
and in the situation there is still a level of self-reliance;
and trust in others;
participants may still be engaged in thrill seeking;
clear linkage between level of subjective risk and participant skill/experience;

(No)
the controlled nature of the environment/little change in run;
the safety controls/equipment/facilities that are required;
little freedom of action by participant/narrow range of self-decision making;

Test Questions

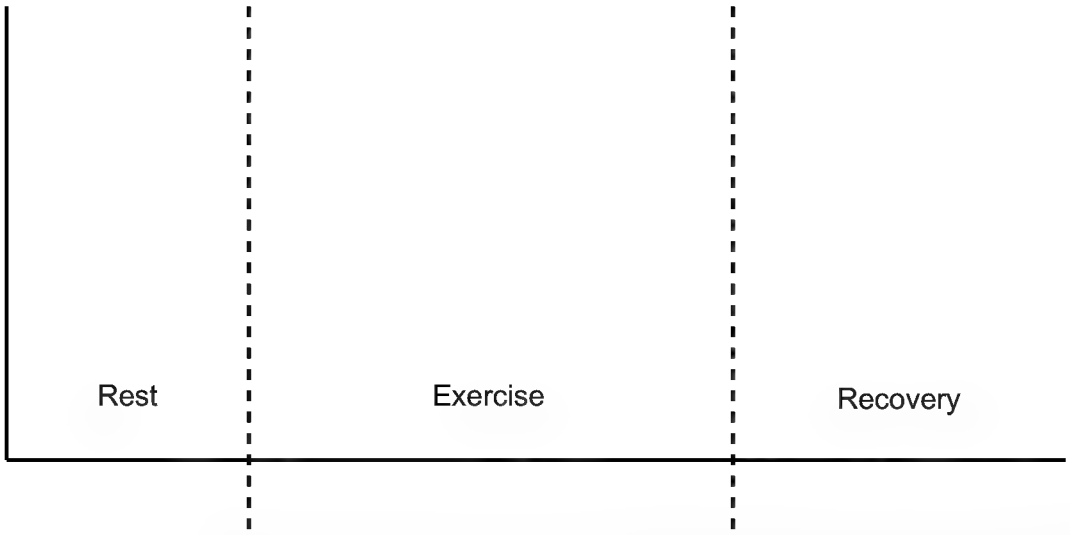
Part 8

'Exercise physiology - exercise and the heart'

Question 1

a Sketch a graph illustrating a typical response of heart rate to a 15 minute exercise session on an exercise cycle, including a 5 minute recovery period.

(5 marks)



b Explain why the heart rate takes some time to return to the resting level after exercise

(4 marks)

Question 2

a

i Distinguish between the terms cardiac output and stroke volume.

(3 marks)

ii What differences in cardiac output and stroke volume would you expect to find between a long-distance runner and an average person?

(3 marks)

iii Explain what is meant by the term **ejection fraction**, and its relationship to stroke volume.

(3 marks)

Question 3

a

i What do you understand by the term bradycardia?

(2 marks)

ii What is the physiological cause of bradycardia?

(2 marks)

iii What are the benefits of bradycardia?

(2 marks)

b The heart maintains a **double circulation** of the blood around the body.

i Explain what double circulation means.

(2 marks)

ii What is meant by the terms systole and diastole?

(2 marks)

iii Describe the order in which different systoles and diastoles occur during a single heart beat.

(3 marks)

iv What excitatory activity is involved in systole and diastole?

(3 marks)

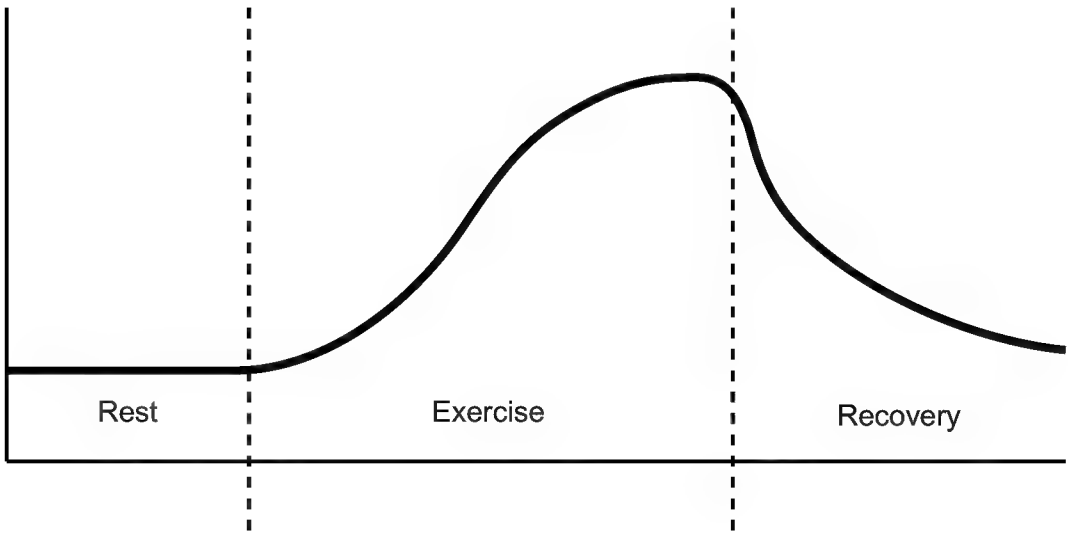
Test Questions

Part 8
'Exercise physiology - exercise and the heart'
Mark Scheme

Question 1

a Sketch a graph illustrating a typical response of heart rate to a 15 minute exercise session on an exercise cycle, including a 5 minute recovery period.

(5 marks)



5 marks for 5 of: Exercise - initial rapid increase in HR;
tapering off;
reaching 'steady state'/plateau;
recovery - initial rapid decline;
tapering off to resting levels;

b Explain why the heart rate takes some time to return to the resting level after exercise

(4 marks)

1 mark for: heart is a complex organ receiving many stimuli including nervous and hormonal, so there is always some delay in its response to changing conditions;

1 mark for: raised oxygen demand of muscles persists for a period after exercise;

1 mark for: raised levels of carbon dioxide and lactate take time to clear;

1 mark for: reflects EPOC or 'oxygen debt';

Question 2

a

i Distinguish between the terms cardiac output and stroke volume.

(3 marks)

1 mark for: Cardiac output and Stroke volume = volume of blood leaving left ventricle;

1 mark for: CO - per minute;

1 mark for: SV - Per beat;

ii What differences in cardiac output and stroke volume would you expect to find between a long-distance runner and an average person?

(3 marks)

1 mark for: higher maximal CO;

1 mark for: higher resting SV;

1 mark for: higher exercising SV at given workload;

iii Explain what is meant by the term **ejection fraction**, and its relationship to stroke volume.

(3 marks)

1 mark for: fraction of the blood within a ventricle that is pumped out (ejected);

1 mark for: at each ventricular contraction (systole);

1 mark for: increased ejection fraction, increased stroke volume;

Question 3

a

i What do you understand by the term bradycardia?

(2 marks)

1 mark for: Lowered resting heart rate;

1 mark for: below 60 bts/min;

ii What is the physiological cause of bradycardia?

(2 marks)

1 mark for: Increased parasympathetic stimulation of SAN;

1 mark for: reduced sympathetic stimulation of SAN;

iii What are the benefits of bradycardia?

(2 marks)

1 mark for: Increased range of heart rate responses;

1 mark for: more efficient action;

b The heart maintains a **double circulation** of the blood around the body.

i Explain what double circulation means.

(2 marks)

2 marks for 2 of: blood travels through heart twice on each circulation;

circulation from heart to lungs;

circulation to rest of body;

ii What is meant by the terms systole and diastole?

(2 marks)

1 mark for: Systole - period of contraction of heart;

1 mark for: diastole - period of relaxation;

iii Describe the order in which different systoles and diastoles occur during a single heart beat.

(3 marks)

(start with any but keep order)

1 mark for: Atrial systole;

1 mark for: Ventricular systole;

1 mark for: Diastole;

iv What excitatory activity is involved in systole and diastole?

(3 marks)

3 marks for 3 of: Systole - SAN fires;

impulses through myocardium;

AVN;

Purkinje fibres/bundle of His;

diastole - absence of stimulation;

Test Questions

Part 9
'Exercise physiology - blood circulation'

Question

A simple equation for the calculation of blood pressure may be written as:

Blood Pressure = cardiac output x resistance to blood flow

a Identify **two** factors that cause resistance to the flow of blood through the blood vessels.

(2 marks)

b Blood pressure is quoted as two numbers e.g. 120/80 mmHg

Explain what each of these numbers represent.

(2 marks)

c The right ventricle is less muscular than the left.

i Explain the effect this has on blood going to the lungs.

(2 marks)

ii What is the advantage of this effect?

(2 marks)

d Why is it necessary for the blood to be under high pressure to assist with the supply of substances for working muscles?

(2 marks)

e In veins, blood pressure is relatively low, hence there is insufficient pressure to return blood quickly enough to the heart.

Describe **three** factors that help speed up this venous return.

(3 marks)

Test Questions

Part 9
'Exercise physiology - blood circulation'
Mark Scheme

Question

A simple equation for the calculation of blood pressure may be written as:

Blood Pressure = cardiac output x resistance to blood flow

a Identify **two** factors that cause resistance to the flow of blood through the blood vessels.

(2 marks)

1 mark for: Friction between blood and wall of vessels;

1 mark for: cross-sectional area of blood vessels;

b Blood pressure is quoted as two numbers e.g. 120/80 mmHg

Explain what each of these numbers represent.

(2 marks)

1 mark for: (120) - systolic/contraction pressure;

1 mark for: (80) - diastolic/relaxation pressure;

c The right ventricle is less muscular than the left.

i Explain the effect this has on blood going to the lungs.

(2 marks)

1 mark for: Less force/strength of contraction;

1 mark for: Lower blood pressure (in pulmonary circulation);

ii What is the advantage of this effect?

(2 marks)

2 marks for 2 of: Slower velocity of blood through capillaries/slower transit time;

more time for diffusion;

less tissue fluid forced into alveoli;

d Why is it necessary for the blood to be under high pressure to assist with the supply of substances for working muscles?

(2 marks)

1 mark for: High pressure forces out plasma/fluid;

1 mark for: containing dissolved oxygen and nutrients;

e In veins, blood pressure is relatively low, hence there is insufficient pressure to return blood quickly enough to the heart.

Describe **three** factors that help speed up this venous return.

(3 marks)

3 marks for 3 of: One-way valves in veins;

compression of veins by contracting skeletal muscles;

compression of veins through pressure changes in abdomen during inspiration;

decompression of veins and heart in thorax as a result of inspiration;

Test Questions

Part 10
'Exercise physiology - gas exchange'

Question 1

a

i What do the terms tidal volume and expiratory reserve volume mean?

(2 marks)

ii Describe a simple investigation to measure lung volumes.

(4 marks)

iii Define the terms **minute ventilation** and **respiratory frequency**.

(2 marks)

iv State the relationship between minute ventilation, respiratory frequency and tidal volume.

(1 mark)

v Explain the impact of work intensity on minute ventilation, respiration frequency and tidal volume.

(2 marks)

b Describe **three** features of the structure of the lungs that make gaseous exchange efficient.

(3 marks)

Question 2

a Efficient breathing is extremely important for a sportsperson. The mechanism of breathing is brought about as a result of changes in air pressure in the lungs, relative to atmospheric pressure.

i Describe the mechanism of inspiration.

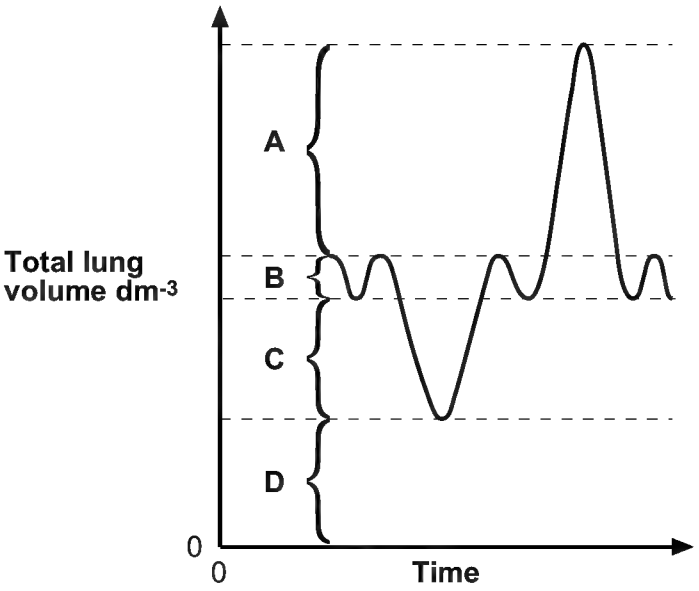
(3 marks)

ii Explain how levels of carbon dioxide in the blood influence the regulation of the breathing mechanism.

(3 marks)

b A spirometer is used to measure volumes of air that move into and out of the respiratory system.

The graph below shows a spirometer trace of an 18 year old student at rest, in which the trace goes **down** when breathing **in** and **up** when breathing **out**.



i Identify the four lung volumes A, B, C, and D.

(4 marks)

ii What volumes make up the vital capacity?

(1 mark)

Question 3

The data in the table were collected from a subject exercising on a bicycle ergometer at increasing work rates.

Exercise Intensity/watts	Breathing rate/ breaths per min	Tidal Volume/ cm^3
50	25	1000
100	30	1200
150	35	1400
200	50	1500

Use the information in the table to answer the following questions.

a

i What is the **minute volume** of ventilation (minute ventilation) at each work rate?

(4 marks)

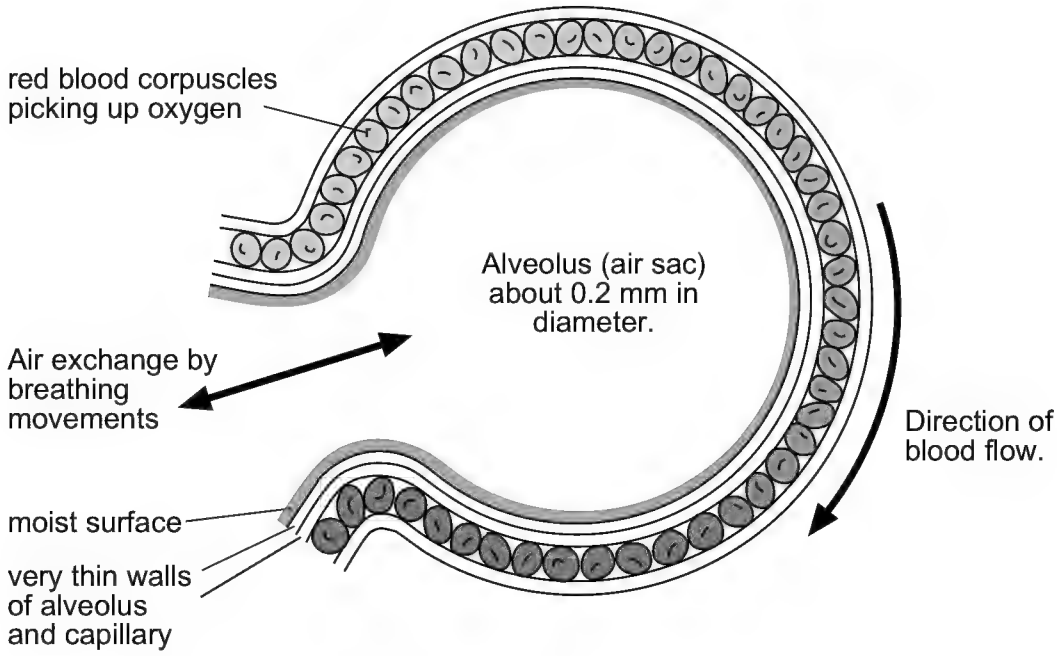
ii If the **vital capacity** of the subject was 3 dm^3, what proportion of that vital capacity was used at the highest intensity exercise?

(2 marks)

b Describe the lung volumes that are used to increase tidal volumes during exercise and the muscles that are required to bring about this change.

(4 marks)

c The diagram below shows the structure of an alveolus and its associated blood vessels.

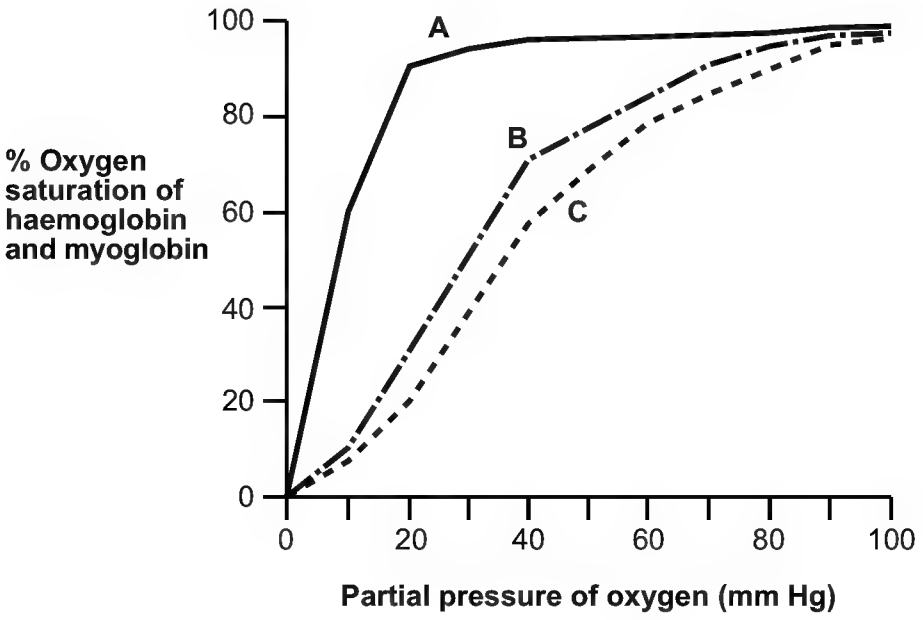

red blood corpuscles picking up oxygen
Alveolus (air sac) about 0.2 mm in diameter.
Air exchange by breathing movements
Direction of blood flow.
moist surface
very thin walls of alveolus and capillary

What features shown in the diagram make this an efficient system for the rapid uptake of oxygen from the alveoli into the blood.

(2 marks)

Question 4 One way of improving performance is to make the delivery of oxygen to the working muscles more efficient. Oxygen delivery is a function of both the blood pigment haemoglobin and the muscle pigment myoglobin.

The graph below shows the oxygen dissociation curves of myoglobin and haemoglobin.



a Which of the curves A, B or C represents oxygen dissociation for:

i haemoglobin during exercise;

ii myoglobin;

iii haemoglobin during non-active (rest) periods?

(2 marks)

b

i Which of the pigments, haemoglobin or myoglobin has the greater affinity or attraction for oxygen?

(1 mark)

ii What is the physiological significance of this pigment's high affinity for oxygen?

(2 marks)

c In terms of the release of oxygen to the working muscle during exercise, what is the significance of the steepest part of an oxygen dissociation curve?

(2 marks)

d What factors help the dissociation of oxyhaemoglobin and hence the release of oxygen during exercise?

(3 marks)

Test Questions

Part 10
'Exercise physiology - gas exchange'
Mark Scheme

Question 1

a

i What do the terms tidal volume and expiratory reserve volume mean?

(2 marks)

1 mark for: Tidal volume - volume of air breathed in/out in one breath;

1 mark for: ERV - volume of air capable of being expired above the tidal volume;

ii Describe a simple investigation to measure lung volumes.

(4 marks)

4 marks for 4 of: Spirometer/tank/container of water;

air filled tank/container floating on top;

mouthpiece connected to container;

breath into and from air filled container;

container moves up and down (as volume changes);

measure movement/volumes;

iii Define the terms **minute ventilation** and **respiratory frequency**.

(2 marks)

1 mark for: Minute ventilation - volume of air breathed out in one minute;

1 mark for: respiratory frequency - number of breaths per minute/breathing rate;

iv State the relationship between minute ventilation, respiratory frequency and tidal volume.

(1 mark)

1 mark for: Minute ventilation = respiratory frequency x tidal volume;

v Explain the impact of work intensity on minute ventilation, respiration frequency and tidal volume.

(2 marks)

2 marks for all 3:
1 mark for 2: MV increases considerably;

RF increases;

TV increases;

b Describe **three** features of the structure of the lungs that make gaseous exchange efficient.

(3 marks)

3 marks for any 3: Large surface area of alveoli;

large capillary blood supply;

thin membranes for diffusion;

short distances involved between adjacent membranes;

Question 2

a Efficient breathing is extremely important for a sportsperson. The mechanism of breathing is brought about as a result of changes in air pressure in the lungs, relative to atmospheric pressure.

i Describe the mechanism of inspiration.

(3 marks)

3 marks for all 5: Diaphragm contracts and flattens;
external intercostals contract lifting ribs upwards and outwards;
increasing volume of thorax and lungs;
reducing pressure in thorax below external air pressure;
air enters down a pressure gradient;

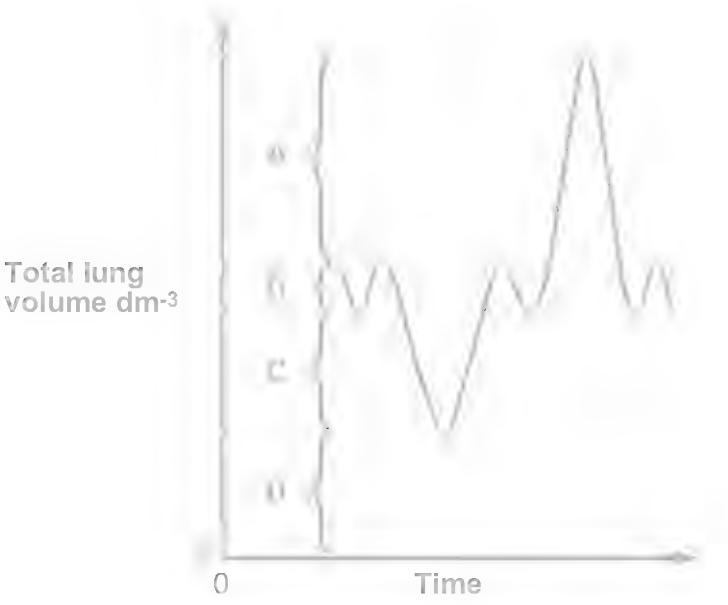
ii Explain how levels of carbon dioxide in the blood influence the regulation of the breathing mechanism.

(3 marks)

3 marks for all 4: Increases in carbon dioxide concentration/tension in blood;
detected by chemoreceptors (in aortic arch/carotid artery);
impulses to medulla/respiratory centre;
increase in rate and depth of breathing;

b A spirometer is used to measure volumes of air that move into and out of the respiratory system.

The graph below shows a spirometer trace of an 18 year old student at rest, in which the trace goes **down** when breathing **in** and **up** when breathing **out**.



i Identify the four lung volumes A, B, C, and D.

(4 marks)

1 mark for: A - expiratory reserve volume;

1 mark for: B - tidal volume;

1 mark for: C - inspiratory reserve volume;

1 mark for: D - residual volume;

ii What volumes make up the vital capacity?

(1 mark)

1 mark for: A + B + C

Question 3

The data in the table were collected from a subject exercising on a bicycle ergometer at increasing work rates.

Exercise Intensity/watts	Breathing rate/ breaths per min	Tidal Volume/ cm^3
50	25	1000
100	30	1200
150	35	1400
200	50	1500

Use the information in the table to answer the following questions.

a

i What is the **minute volume** of ventilation (minute ventilation) at each work rate?

(4 marks)

1 mark for: 50 Watts - 25000 cm^3/25 dm^3;
1 mark for: 100 Watts - 36000 cm^3/36 dm^3;
1 mark for: 150 Watts - 49000 cm^3/49 dm^3;
1 mark for: 200 Watts - 75000 cm^3/75 dm^3;

ii If the **vital capacity** of the subject was 3 dm^3, what proportion of that vital capacity was used at the highest intensity exercise?

(2 marks)

1 mark for: (1500/3000) x 100;
1 mark for: = 50%;

b Describe the lung volumes that are used to increase tidal volumes during exercise and the muscles that are required to bring about this change.

(4 marks)

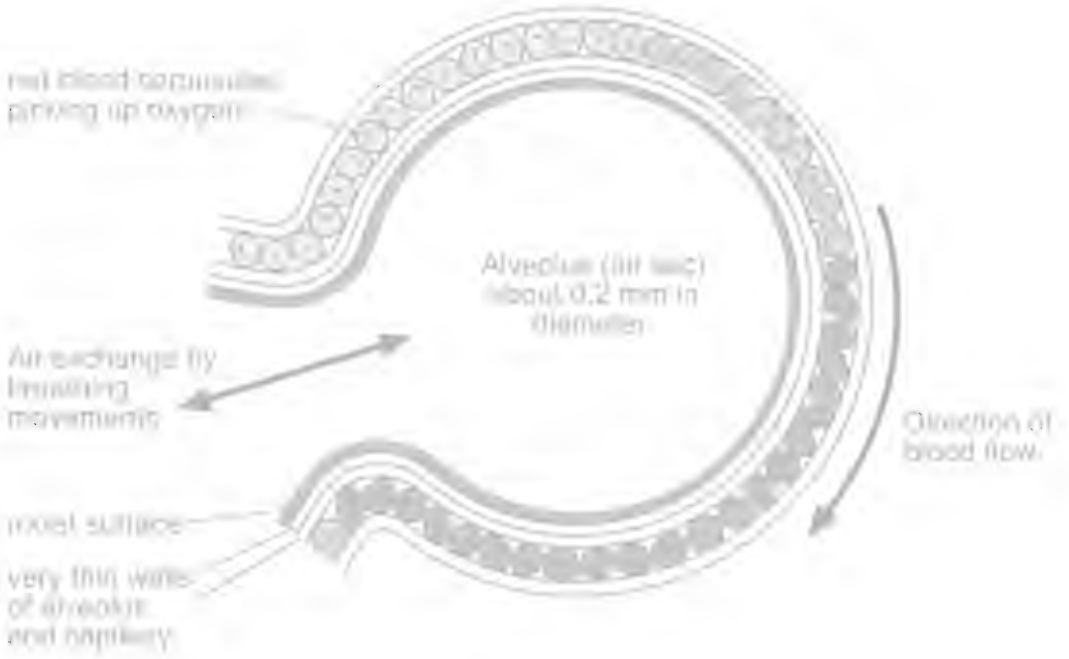
1 mark for: Volumes used - Expiratory reserve;

1 mark for: inspiratory reserve;

1 mark for: diaphragm muscles;

1 mark for: intercostal muscles;

c The diagram below shows the structure of an alveolus and its associated blood vessels.



What features shown in the diagram make this an efficient system for the rapid uptake of oxygen from the alveoli into the blood.

(2 marks)

2 marks for 2 of: Thin epithelia/membranes;

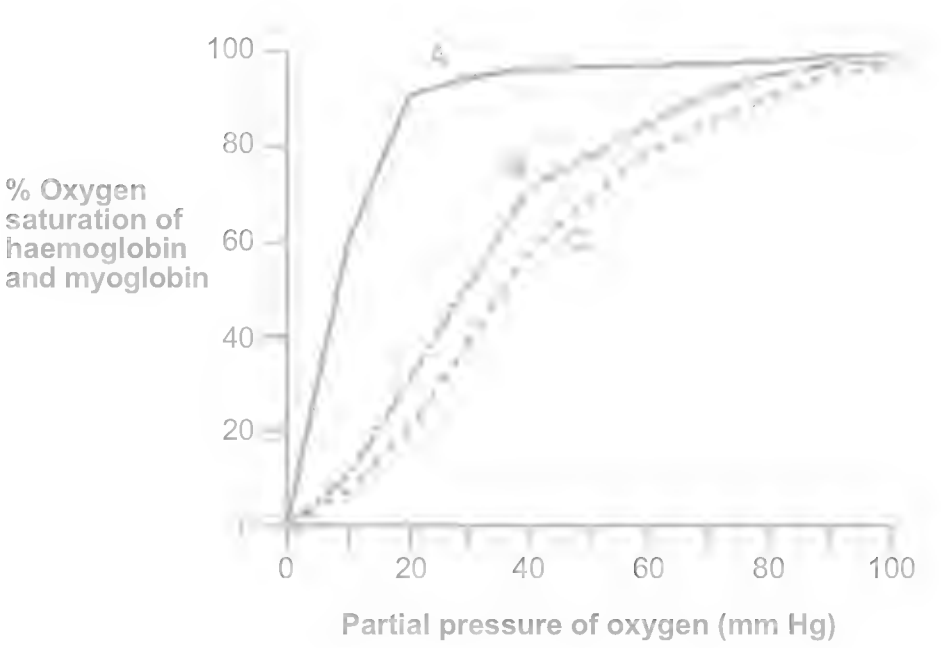
large area of contact between alveolus and capillary;

short distance between alveolus and capillary;

many red blood cells;

Question 4 One way of improving performance is to make the delivery of oxygen to the working muscles more efficient. Oxygen delivery is a function of both the blood pigment haemoglobin and the muscle pigment myoglobin.

The graph below shows the oxygen dissociation curves of myoglobin and haemoglobin.



a Which of the curves A, B or C represents oxygen dissociation for:

i haemoglobin during exercise;

ii myoglobin;

iii haemoglobin during non-active (rest) periods?

(2 marks)

2 marks for all 3:
1 mark for 2:

i C;

ii A;

iii B

b

i Which of the pigments, haemoglobin or myoglobin has the greater affinity or attraction for oxygen?

(1 mark)

1 mark for: Myoglobin/A

ii What is the physiological significance of this pigment's high affinity for oxygen?

(2 marks)

2 marks for any 2: Myoglobin able to pickup oxygen from oxyhaemoglobin;

myoglobin always fully saturated with oxygen;

oxygen available for muscle contraction/energy;

c In terms of the release of oxygen to the working muscle during exercise, what is the significance of the steepest part of an oxygen dissociation curve?

(2 marks)

1 mark for: Small decrease in oxygen tension;

1 mark for: produces large decrease in % saturation/oxygen released;

d What factors help the dissociation of oxyhaemoglobin and hence the release of oxygen during exercise?

(3 marks)

2 marks for any 2: Increase in pCO_2/CO_2 concentration/tension;

increase in acidity/decrease in pH;

increase in temperature;

increase/release of DPG;

Test Questions

Part 11
'Exercise physiology - the effects of training'

Question

a Endurance training may produce adaptation such as those shown in the table below.

	Non-athlete	Trained Endurance Athlete
Resting Heart Rate (beats per min)	70	50
Maximum Heart Rate (beats per min)	210	180
Resting Stroke Volume of Left Ventricle (cm^3)	70	100
Maximum Stroke Volume of Left Ventricle (cm^3)	100	170
VO^2 max ($cm^3.kg.min^{-1}$)	40	80

i Explain what is meant by the term stroke volume.

(2 marks)

ii Explain how the stroke volume of the heart increases during exercise.

(4 marks)

iii Calculate the **maximum cardiac output** for the **endurance** athlete.

(3 marks)

b During exercise, the heart rate will increase, and then decrease during recovery.

i What part of the nervous system controls heart rate?

(1 mark)

ii What stimulates the nervous system to alter heart rate prior to and during, exercise?

(4 marks)

Test Questions

Part 11
'Exercise physiology - the effects of training'
Mark Scheme

Question

a Endurance training may produce adaptation such as those shown in the table below.

	Non-athlete	Trained Endurance Athlete
Resting Heart Rate (beats per min)	70	50
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Maximum Stroke Volume of Left Ventricle (cm^3)	100	170
VO^2 max ($cm^3.kg.min^{-1}$)	40	80

i Explain what is meant by the term stroke volume.

(2 marks)

1 mark for: Volume of blood leaving ventricle;

1 mark for: per beat;

ii Explain how the stroke volume of the heart increases during exercise.

(4 marks)

4 marks for any 4: Increase in blood returned to heart/venous return;
greater diastolic filling;
Starlings Law of the heart;
greater force/strength of contraction;
greater ejection fraction;

iii Calculate the **maximum cardiac output** for the **endurance** athlete.

(3 marks)

1 mark for: Q = 180 x 170;
1 mark for: = 30600/30.6;
1 mark for: cm^3/dm^3 (litres);

b During exercise, the heart rate will increase, and then decrease during recovery.

i What part of the nervous system controls heart rate?

(1 mark)

1 mark for: Autonomic/sympathetic/parasympathetic system;

ii What stimulates the nervous system to alter heart rate prior to and during, exercise?

(4 marks)

Sub max 1 mark for: Prior - emotion;

Sub max 3 marks for: During - increasing carbon dioxide/acidity (lowering pH) levels in blood;

as a result of energy for muscle contraction/equiv;

detected by chemoreceptors in aortic arch/carotid artery;

impulses to cardiac centre in medulla;

Test Questions

Part 12

'Physical Education - just sport that we do in School'

Question 1 Physical Education is a compulsory foundation subject in the National Curriculum for England & Wales.

a The National Curriculum determines what is taught within PE lessons.

i What are the main objectives of the PE National Curriculum?

(5 marks)

ii How would the Physical Education experiences of pupil in KS1 differ from one in KS4?

(4 marks)

iii What factors might influence how a school decides how to meet the requirements of the National Curriculum? Discuss or give examples of how the factors you have identified will effect provision.

(4 marks)

b If PE lessons were used to train school sports teams is it possible they could still be meeting the objectives of the National curriculum?

(5 marks)

Question 2 With the introduction of the National Curriculum the government took more direct control over what was taught in schools in England & Wales.

a The National Curriculum determines what is taught to children as they progress through school from Year 1 to Year 11.

i Describe the National Curriculum in terms of structure and assessment.

(5 marks)

ii As pupils progress through the National Curriculum they are given more choice in the activities they participate in. What might influence their choice?

(3 marks)

b What benefits or disadvantages has the introduction of a national curriculum in physical education brought to pupils and schools?

(6 marks)

c As part of the physical activity experience within a school many PE Departments provide a range of extra-curricular recreational and competitive sport activities. What purposes are these thought to fulfil?

(4 marks)

Test Questions

Part 12

'Physical Education - just sport that we do in School'

Mark Scheme

Question Physical Education is a compulsory foundation subject in the National Curriculum for England & Wales.

a The National Curriculum determines what is taught within PE lessons.

i What are the main objectives of the PE National Curriculum?

(5 marks)

5 marks for 5 of:

to develop skills, physical competencies;

to support physical development;

provide opportunities to develop creativity;

develop team/group work;

develop ability to observe and evaluate movement/skill or eq;

develop understanding of benefits of a healthy/active life style;

develop the ability to plan/improve own performance/performance of others;

develop understanding of how to work safely in physical activity situations;

to be knowledgeable performer rules/etiquette etc;

ii How would the Physical Education experiences of pupil in KS1 differ from one in KS4?

(4 marks)

4 marks for 4 of: increased number of activities for participation;

ability to specialise/choose;

required to apply more complex skills/concepts/tactics or eq;

work more with other pupils;

accept more responsibility for working safely/independently;

be able to direct their own improvement/practice;

iii What factors might influence how a school decides how to meet the requirements of the National Curriculum? Discuss or give examples of how the factors you have identified will effect provision.

(4 marks)

4 marks for 4 of: facilities – e.g. if you have no swimming pool it is harder to undertake water activities;

traditional activities undertaken in the school e.g. if a school has a tradition for team games they are likely to figure prominently in the curriculum;

time available on the curriculum – the amount of time will probably effect the variety of activities provided;

physical resources/equipment – e.g. cricket requires expensive equipment to be undertaken properly;

the knowledge/experience of the PE teachers – if they have little experience of outdoor pursuits these will not figure prominently;

local environment – if a school is based on the coast, water based activities might be more prominent;

local traditions – if a school is in an area where a certain activity is popular it is likely to figure within the PE curriculum;

b If PE lessons were used to train school sports teams would they still be meeting the objectives of the National curriculum?

(5 marks)

5 marks for 5 of max 3 per section:

(No)

sport has quite different objectives to PE;

sport is linked to concerns about winners/losers;

sport teams are essentially elitist/selected/will not achieve opportunity for all/NC is about opportunity for all;

selection is on the basis of ability/prowess/PE lessons should offer opportunity for success regardless of ability;

in sport teams individual creativity/independence may be discouraged due to win ethic/may not get an opportunity to develop tactics/strategies;

skill development may be sacrificed to fitness development due to desire to win;

(Yes)

school sports teams can be run on educational grounds;

practices/matches can be focussed on development of individuals/groups;

skills will develop due to practice;

fitness will develop;

individuals can learn about sportsmanship/team play or eq;

(Conclusion)

whilst some aspects of the NC can be covered it is unlikely that the whole range of objectives will be met;

and there is little possibility of all pupils gaining equality of opportunity.

Question 2 With the introduction of the National Curriculum the government took more direct control over what was taught in schools in England & Wales.

a The National Curriculum determines what is taught to children as they progress through school from Year 1 to Year 11.

i Describe the National Curriculum in terms of structure and assessment.

(5 marks)

5 marks for 5 of: the curriculum is divided into four Key Stages;

at each Key Stage specific activities or range of activities must be taught;

there is a recommended amount of time to be spent on curricular & non curricular physical activity;

the objectives of the NC must be met through the delivery of the activities within each KS;

there is a progression of work/experience from KS1 to KS4;

assessment is divided into a series of levels/8 levels plus exceptional performance;

each level is determined by a set of criteria;

assessment covers more than just performance;

but also looks at observtaion/evaluation/knowledge of health & safety/working/coaching others or eq;

ii As pupils progress through the National Curriculum they are given more choice in the activities they participate in. What might influence their choice?

(3 marks)

3 marks for 3 of:

previous experiences in the curriculum;

what their friends choose;

what the popular/dominant pupils choose;

whether it is an indoor or outdoor activity;

the PE/sports kit that they are required to wear for the activity;

whether it is a team game or not;

level of competitiveness/fitness required;

if it reflects an activity they partcipate in outside of school;

how fashionable/popular the sport is in the media/non school environment;

b What benefits or disadvantages has the introduction of a national curriculum in physical education brought to pupils and schools?

(6 marks)

6 marks for 6 of: max 4 per section

(Benefits)

all pupils now have an entitlement to certain activities;

PE has same status as any other subject;

pupils with PE/sports skills can now gain assessment 'credit';

pupils should experience a planned progression;

PE now encompasses more than just performance;

will therefore allow a wider range of pupils to achieve;

schools can measure how well they are doing in PE;

can gain national awards for excellence in PE;

(Disadvantages)

schools/teachers have less control over what they teach;

teachers may have to teach activities for which they feel they have little experience or training;

schools may not be able to focus on traditional activities;

teachers may have to spend more time on assessment;

some teachers may feel it is a loss to have to develop areas other than skill/performance;

c As part of the physical activity experience within a school many PE Departments provide a range of extra-curricular recreational and competitive sport activities. What purposes are these thought to fulfil?

(4 marks)

4 marks for 4 of: allow more talented/interested pupils to progress;

build up a school tradition/pride in the school;

support the school's 'marketing objectives';

support the school in gaining national charter marks;

provide opportunities to keep children occupied in their spare time/'off the streets';

develop pupil-teacher relationships;

develop pupil-pupil relationships;

Test Questions

Part 13
'Physical Education - Only the Business of Schools'

Question The physical activity experience in schools will include both physical education and competitive sport.

a In what ways would competitive sport be part of a pupils physical activity experience in school?

(2 marks)

b Sport England has developed policies to help encourage sport in schools.

i Sportsmark is an award given for excellence of provision in physical education and sport. What criteria must be fulfilled to gain this award?

(4 marks)

ii Why has Sport England developed policies designed to encourage sport in schools?

(4 marks)

iii What role does the Youth Sports Trust play?

(3 marks)

iv As a PE specialist would you be concerned over the impact of these policies?

(5 marks)

Test Questions

Part 13
'Physical Education - Only the Business of Schools'

Mark Scheme

Question 1 The physical activity experience in schools will include both physical education and competitive sport.

a In what ways would competitive sport be part of a pupils physical activity experience in school?

(2 marks)

2 marks for 2 of: the school would field competitive sport teams against other schools;

there may be inter-house/inter-form matches;

physical education lessons may include competitive sport activities;

a pupil may be selected for a regional squad/development group or eq.

b Sport England has developed policies to help encourage sport in schools.

i Sportsmark is an award given for excellence of provision in physical education and sport. What criteria must be fulfilled to gain this award?

(4 marks)

4 marks for 4 of: the school must meet the requirements of the Physical Education National Curriculum

all pupils must receive a minimum entitlement of 2 hours PE per week;

staff involved in PE and in coaching teams must be qualified/working towards qualifications;

there must be a minimum number of recreational sport activities available;

there must be a minimum number of competitive sport activities available;

a certain % of pupils must participate in sporting activities;

the school must have regular/active links with external sports clubs;

ii Why has Sport England developed policies designed to encourage sport in schools?

(4 marks)

4 marks for 4 of: evidence that other curricular demands were reducing time spent on PE;

decrease in the number of teachers willing to take extra-curricular sport;

One of Sport England's objectives is to increase the amount of participation in sport by young people;

desire to improve the quality of coaching/concern over non-specialist teaching in junior schools;

concerns over the development of elite talent;

and the drop out between school and clubs;

concerns that some school programmes were failing to develop the abilities of talented performers;

iii What role does the Youth Sports Trust play?

(3 marks)

3 marks for 3 of: supports school PE programmes through the TOP programmes;

staged programmes early years/primary/secondary/

through resource cards for lessons/practical sessions;

child friendly equipment designed/advised upon/sold;

training for teachers and community deliverers/parents;

supports disabled inclusion;

fund raisers for youth sport;

supports schools in achieving specialist sports college status;

iv As a PE specialist would you be concerned over the impact of these policies?

(5 marks)

5 marks for 5 of:
max 3 per section

(negative)

physical education may be seen to be solely concerned with competitive sport;

this may deter the non elite performer;

reinforces non PE specialists view of PE as sport;

may have a detrimental impact on the non-performance aspects of the national curriculum;

physical education professionals may resent intrusion into their field of expertise;

(positive)

recognition of the value of PE and sport will support presence on curriculum;

extra resourcing may allow for more support from staff/outside coaches;

funding for coaching courses is good for staff development;

Schools may be keen to use the status of a Sportsmark in their promotional material;

raises status of PE/school sport in parents eyes;

Test Questions

Part 14
'Public Schools - early beginning and lasting influences'

Question 1 The adoption and development of games by the Public Schools in the mid 19th Century had a significant effect on the schools and on society.

a Thomas Arnold of Rugby School played a significant part in this process.

i What were the characteristics of the mob games that would have been popular at Rugby School before Arnold?

(4 marks)

ii In what ways did Arnold use the boys desire to play games such as mob football, and the influence of the older boys, to help him gain control of their behaviour?

(5 marks)

iii Arnold was not necessarily keen on all games but viewed them as a means to further his Christian ideals. What was the link between Arnold's Christian beliefs and the growth of 'athleticism'

(5 marks)

b In the latter part of the 19th Century the public schools increasingly focussed on developing the standard of their teams. How was this achieved?

(4 marks)

Question 2 The development of rational games in the Public Schools in the 19th Century had a significant impact upon society and our modern sports world.

a What effect did ex public school/university old boys have on the development of rational sport?

(3 marks)

b The public school 'old boys' also helped develop rational recreation for the working classes.

i How was this development achieved?

(5 marks)

ii For what purposes did the middle class introduce their games culture to working class groups in the UK?

(5 marks)

c To what extent is our modern approach to physical education and sport in schools still influenced by the developments that took place in the public schools in the latter half of the 19th Century?

(5 marks)

Test Questions

Part 14
'Public Schools - early beginning and lasting influences'
Mark Scheme

Question 1 The adoption and development of games by the Public Schools in the mid 19th Century had a significant effect on the schools and on society.

a Thomas Arnold of Rugby School played a significant part in this process.

i What were the characteristics of the mob games that would have been popular at Rugby School before Arnold?

(4 marks)

4 marks for 4 of: violent;

lack of technical sophistication/force over skill;

little organisational stringency/no specialist facilities/technical rules/number of players or eq;

no player specialisation;

no distinctive uniforms;

lack of distinction between players and spectators;

ii In what ways did Arnold use the boys desire to play games such as mob football, and the influence of the older boys, to help him gain control of their behaviour?

(5 marks)

1 mark for every 2 of:

Arnold forbade certain activities such as gambling/fighting/poaching;

but would allow games of football under certain conditions;

Arnold gave status and responsibility to older boys;

who were already influential through their age/size;

to organise/control the social lives of the boys but only within the Christian guidelines;

the older boys/sixth form developed the rules;

and the inter-house rivalries to develop loyalty to the house;

the desire not to let the house down;

pressured the boys to behave within the rules;

which spread from the games field into all aspects of their social lives;

iii Arnold was not necessarily keen on all games but viewed them as a means to further his Christian ideals. What was the link between Arnold's Christian beliefs and the growth of 'athleticism'

(5 marks)

5 marks for 5 of:

Arnold believed that Christian values should determine an individual's behaviour;

this included piety/consideration for others/honesty etc;

also that physical gifts were God given and should be developed/used;

in a morally correct manner;

this led to the development of 'Muscular Christianity';

combination of physical endeavour;

and moral integrity;

Christian morals/behaviour were first embodied within the expected behaviour on the games field;

then spread into all other aspects of public school life;

b In the latter part of the 19th Century the public schools increasingly focussed on developing the standard of their teams. How was this achieved?

(4 marks)

4 marks for 4 of: development of specialist facilities;

large amounts of time made available for the boys to practice;

the use of Oxbridge blues/professional coaches to coach/train the teams;

increasing number of fixtures inter school/ and with club sides;

development of agreed sets of rules;

sports prowess being used by the schools as a means to market themselves;

leading to increasing the amount of resources;

Question 2 The development of rational games in the Public Schools in the 19th Century had a significant impact upon society and our modern sports world.

a What effect did ex public school/university old boys have on the development of rational sport?

(3 marks)

1 mark for every 2 of: old boys set up their own clubs;

so that they could continue to play the games played at school/university;

members of these clubs eventually formed the governing bodies of sport;

which developed sets of rules;

and developed league and cup competitions;

they also continued/extended the ethos of amateurism;

b The public school 'old boys' also helped develop rational recreation for the working classes.

i How was this development achieved? (5 marks)

5 marks for 5 of; max 3 per section

(church)

some old boys went into the church and;

accepted ministries in the urban/industrial areas;

encouraged the development of boys teams/girls activities;

for activities such as football/dancing/boxing etc;

and the use of Church halls/grounds/facilities;

through Sunday School/Youth clubs;

(industry)

other old boys went into industry/family firm or eq.;

set up works teams for the workers (abroad);

other old boys joined forces/foreign office/diplomatic corps/colonial office;

took games culture to empire countries for own amusement;

and as a form of cultural/social dominance over indigenous people.

ii For what purposes did the middle class introduce their games culture to working class groups in the UK?

(5 marks)

5 marks for 5 of:

philanthropic intentions of middle class;

concern for physical fitness/well being of working class;

due to poor living/working conditions;

wanted a fitter/more productive work force/army or eq;

wanted to impart notions of team work/working together;

concern over moral standards of w. class;

evangelical Christian approach;

desire for a more subservient w. class/able to take/respond to commands;

desire from m. class to maintain their political/social control over w. class;

by assimilating them into m. class culture/hegemony.

c To what extent is our modern approach to physical education and sport in schools still influenced by the developments that took place in the public schools in the latter half of the 19th Century?

(5 marks)

5 marks for 5 of: modern national curriculum is games biased;

inter-house/form/school matches still an important aspect of life in many schools;

schools still use sport in attempt to develop loyalty to the school;

school sport used to demonstrate service to others;

school sport claimed to offer opportunities to experience/develop leadership skills;

successful performers in school sport have high status amongst peers;

school sport still used to market schools;

school sport/NC PE is heavily underscored by the same moral philosophy/ethics prevalent in the public schools;

sport is still considered to be an important control over youth crime/delinquency;

duty to develop ones talents/abilities still emphasised.

Test Questions

Part 15
'Understanding Skill'

Question 1

a You are observing a number of mixed ability badminton players being coached. Some players cannot seem to improve their skill level, no matter how hard they try.

i Define perceptual ability and motor ability.

(2 marks)

ii Suggest two motor abilities necessary for performing a serve in badminton.

(2 marks)

iii Some performers have a large number of abilities, which gives the impression of "innate ability". Why is this misleading?

(2 marks)

b

Describe two ways in which the perception of distance is achieved when hitting a shuttlecock in a game of badminton (open skill).

(3 marks)

Question 2

a The diagram below shows three ways of classifying a skill.

Open.....Closed

Gross.....Fine

Self Paced.....Externally Paced

Classify each of the following skills according to the continua shown above, and for each suggestion, justify your answer.

i passing in netball/basketball and

(3 marks)

ii penalty shooting in netball/ basketball.

(3 marks)

b 'Skill is the **learned ability** to bring about **predetermined results** with maximum certainty, often with the **minimum outlay of time or energy** or both'. (Guthrie, 1972)

Explain what is meant by each of the four qualities of skill that have been underlined in the above definition.

(4 marks)

Question 3

a With examples from both an invasion game and gymnastic type activity, apply the terms open and closed skill

(4 marks)

b A list of sport skills appears below:

A a seat drop (trampolining)

B a volley (tennis)

C a penalty shot (soccer)

D a cartwheel (artistic gymnastics)

E an interception of a pass (basketball or netball)

Select four from the list to illustrate Poulton's continuum from open to closed skills;

i two which you consider to be at the open end;

ii one which you consider to be centrally placed;

iii one which you consider to be at the closed end.

(4 marks)

c How does this classification/continuum assist the performer to decide how a sport skill might best be practised?

(4 marks)

Question 4

a Explain open and closed psychomotor skills as defined by Poulton (1957)?

(4 marks)

b Here is a list of activities drawn from a range of sports:

basketball free throw; jogging; swimming; diving; a high jump; and a gymnastics sequence.

i Classify each of these activities in terms of: discrete, continuous or serial tasks.

(3 marks)

ii Justify your decisions in the case of two of these activities.

(2 marks)

c Another way to classify movement is in terms of pacing.

i Explain what is meant by self-paced skills. Illustrate your answer from an A-level activity.

(2 marks)

ii Explain what is meant by externally-paced skills. Illustrate your answer from an A level activity.

(2 marks)

Test Questions

Part 15
'Understanding Skill'
Mark Scheme

Question 1

a You are observing a number of mixed ability badminton players being coached. Some players cannot seem to improve their skill level, no matter how hard they try.

i Define perceptual ability and motor ability.

(2 marks)

1 mark for: Perceptual ability – ability to make sense of information/eq;

1 mark for: Motor ability – ability to move accurately and precisely/eq;

ii Suggest two motor abilities necessary for performing a serve in badminton.

(2 marks)

any 2 for 2 marks limb co-ordination/control precision/manual dexterity/finger dexterity/hand-eye co-ordination/aiming/visual activity/eq;

iii Some performers have a large number of abilities, which gives the impression of "innate ability". Why is this misleading?

(2 marks)

2 marks for: too many for one person to have all/some are contradictatory;

skills require different abilities;

b Describe two ways in which the perception of distance is achieved when hitting a shuttlecock in a game of badminton (open skill).

(3 marks)

3 marks for 3 of: proprioception/feed back from muscles;

binocular vision;

sound of shuttlecock through the air;

Question 2

a The diagram below shows three ways of classifying a skill.

Open.....Closed
Gross.....Fine
Self Paced.....Externally Paced

Classify each of the following skills according to the continua shown above, and for each suggestion, justify your answer.

i passing in netball/basketball and

(3 marks)

1 mark for: open – changing/unpredictable environment/decisions to be made;
1 mark for: gross–limb movements or fine- finger or hand movements;
1 mark for: externally-paced by position of others or self-paced – player decides when to begin skill and what speed to use;

ii penalty shooting in netball/ basketball.

(3 marks)

1 mark for each of: closed - unchanging/predictable environment/no decisions to be made;
gross - limb movements or fine - finger or hand movements;
internally paced/self-paced - player decides when to begin skill;

b 'Skill is the **learned ability** to bring about **predetermined** results with **maximum certainty**, often with the **minimum outlay of time or energy** or both'. (Guthrie, 1972)

Explain what is meant by each of the four qualities of skill that have been underlined in the above definition.

(4 marks)

4 marks skills are learned through practice/repetition;
environmental goal/target is known;
repeatable end product/no flukes;
minimization of energy/time used in performance/smooth/looks good;

Question 3

a With examples from both an invasion game and gymnastic type activity, apply the terms open and closed skills.

(4 marks)

4 marks open – passage of play in game;

open – adjustment to performance in gymnastics;

closed – set piece in game;

closed – start of performance in gymnastics/repeated skill;

b A list of sport skills appears below:

A a seat drop (trampolining)

B a volley (tennis)

C a penalty shot (soccer)

D a cartwheel (artistic gymnastics)

E an interception of a pass (basketball or netball)

Select four from the list to illustrate Poulton's continuum from open to closed skills;

i two which you consider to be at the open end;

1 mark for: B/volley;
1 mark for: E/interception;

ii one which you consider to be centrally placed;

1 mark for A/seat drop;

iii one which you consider to be at the closed end.

1 mark for C/penalty shot or D/cartwheel;

c How does this classification/continuum assist the performer to decide how a sport skill might best be practiced?

(4 marks)

1 mark for: closed – practised in isolation/away from performance;
1 mark for: easily repeatable/replicable;
1 mark for: open – variable situations in which to practice;
1 mark for: as close as possible to game situation;

Question 4

a Explain open and closed psychomotor skills as defined by Poulton (1957)?

(4 marks)

1 mark for: open – unpredictable/changing environment;

1 mark for: hence decisions to be made about how to perform skill;

1 mark for: closed - predictable/unchanging environment;

1 mark for: hence few (one) decision to be made;

b Here is a list of activities drawn from a range of sports:

basketball free throw; jogging; swimming; diving; a high jump; and a gymnastics sequence.

i Classify each of these activities in terms of: discrete, continuous or serial tasks.

(3 marks)

1 mark for: discrete – free throw/diving/(high jump);

1 mark for: serial – (diving)/high jump/gymnastics sequence;

1 mark for: continuous – jogging/swimming;

ii Justify your decisions in the case of two of these activities.

(2 marks)

any 2 for 2 marks: discrete – definite beginning and end to skill;
or serial – several discrete skills combined into a sequence;
or continuous – same skill repeated over and over again;

c Another way to classify movement is in terms of pacing.

i Explain what is meant by self-paced skills. Illustrate your answer from an A-level activity.

(2 marks)

1 mark for: pace/start/speed of skill is controlled by performer;
1 mark for: suitable example – closed skill;

ii Explain what is meant by externally-paced skills. Illustrate your answer from an A level activity.

(2 marks)

2 marks pace/start/speed of skill in controlled by external sources;
suitable example – open skill;

Test Questions

Part 16
'Making Decisions'

Question 1

Using the example of a singles tennis player receiving a serve:

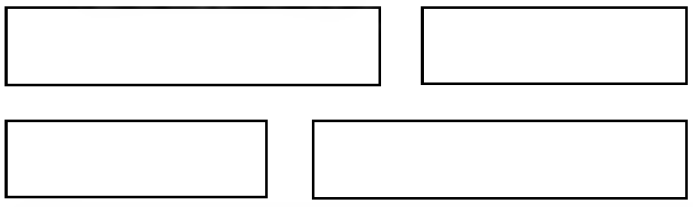
a State the three major receptor systems that provide information.

(2 marks)

b The items in the boxes below represent the elements of a simple information processing model of skill. Arrange the boxes and add lines and arrowheads to represent the flow of information during the execution of an open skill.

(3 marks)

DECISION MAKING



c List three items of information that an experienced player might focus on whilst preparing to receive an opponent's serve.

(3 marks)

Question 2

a If you have played badminton before, and particularly if you have played the same opponent before, you will use your memory, to help you play better.

i Describe short-term and long-term memory.

(4 marks)

ii State the information in long-term memory that might be used when deciding on a particular return after receiving a service in badminton?

(4 marks)

iii Explain the term selective attention, and give an example of how it is used in a badminton match.

(3 marks)

Question 3 In a game, such as soccer, situations often arise where a defender is left facing two attackers, one of whom is in possession of the ball. This is often called a 2 v 1 situation. Refer to this situation in answer to all parts of this question.

a

i What is meant by information in this situation?

(1 mark)

ii Describe the information processing involved as the defender decides on an appropriate action.

(4 marks)

iii If all the players are learners, why does the attack frequently break down?

(5 marks)

b Consider the action of "sending a pass" in a game such as that described above. Explain how a coach might structure practise so that learners progress effectively through the technical and tactical aspects of learning to pass a ball. Refer to information processing theory in your answer.

(4 marks)

Question 4 The Information Processing theory sheds light on the actual processes that take place during the learning of motor skills.

Whiting's model (1969), is a well-known illustration of the Information Processing theory.

a Input data comes from the display. Define the term display?

(1 mark)

b In Whiting's model, there are many arrows entering the Perceptual Mechanisms, but only one leaving.

i Identify this mechanism, and describe its function.

(2 marks)

ii If a novice soccer player keeps missing the ball, what cognitive strategies would you advise to ensure future success?

(2 marks)

c The time it takes for a performer to react to stimuli can effect the resultant performance.

i Define reaction time, movement time and response time.

(3 marks)

ii If you were the receiver of a serve in tennis, give three factors that would affect your response time.

(3 marks)

iii How would you cut down the time it takes for you to respond to the server?

(3 marks)

iv Sketch a graph to illustrate the relationship between reaction time and the number of possible responses.

(3 marks)

d If the shuttle hits the top of the net during a rally in badminton, the receiver has to adjust the response. There is a delay between processing the first stimulus and the final response.

i What is this delay called?

(1 mark)

ii Explain why this delay could occur.

(2 marks)

Test Questions

Part 16
'Making Decisions'
Mark Scheme

Question 1

Using the example of a singles tennis player receiving a serve:

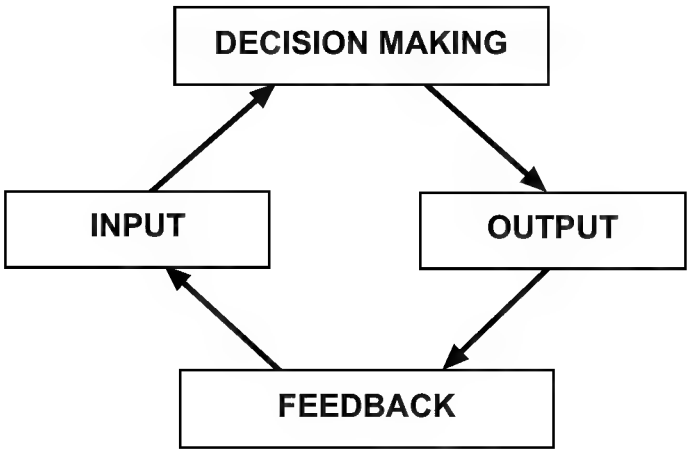
a State the three major receptor systems that provide information.

(2 marks)

any 2 for 2 marks: vision/eyes/sight
touch
balance/equilibrium
kinaesthesis/body awareness;

b The items in the boxes below represent the elements of a simple information processing model of skill. Arrange the boxes and add lines and arrowheads to represent the flow of information during the execution of an open skill.

(3 marks)



1 mark for: corect sequence of input-decision-making-output;

1 mark for: feedback from output to input;

1 mark for: correct arrows;

c List three items of information that an experienced player might focus on whilst preparing to receive an opponent's serve.

(3 marks)

any 3 for 3 marks: stance/foot position/grip/backswing/ball toss/racket action;

Question 2

a If you have played badminton before, and particularly if you have played the same opponent before, you will use your memory, to help you play better.

i Describe short-term and long-term memory.

(4 marks)

max of 4 marks

Sub max 2 marks STM – working memory/7-9 items/30-60 seconds/lost if not rehearsed/chunking;

Sub-max 2 marks LTM – store of rehearsed information/past experiences/skills/unlimited capacity/retrievable if rehearsed;

ii State the information in long-term memory that might be used when deciding on a particular return after receiving a service in badminton?

(4 marks)

any 4 for 4 marks: stored information concerning previous experience of situation;

information to predict flight of shuttle;

information concerning nature of opponent;

information concerning possible responses;

information concerning preferred response;

iii Explain the term selective attention, and give an example of how it is used in a badminton match.

(3 marks)

1 mark for: selection of relevant information from irrelevant in display;

1 mark for: limit of capacity it deal with information;

1 mark for: suitable e.g. – watching shuttle not crowd/eq;

Question 3 In a game, such as soccer, situations often arise where a defender is left facing two attackers, one of whom is in possession of the ball. This is often called a 2 v 1 situation. Refer to this situation in answer to all parts of this question.

a

i What is meant by information in this situation?

(1 mark)

1 mark for: stimuli to sense organs/eq;

ii Describe the information processing involved as the defender decides on an appropriate action.

(4 marks)

any 4 for 4 marks: defender perceives relevant stimuli;

refers to memory;

long-term via short term;

identifies situation;

selects response;

programmes response;

implements response;

iii If all the players are learners, why does the attack frequently break down?

(5 marks)

any 5 for 5 marks: learners – limited experience/store of information;
unable to 'see' all that is happening;
unable to control ball/do right thing;
limited motor programmes to choose
action breaks down under pressure;
receiver unable to control ball;

b Consider the action of 'sending a pass' in a game such as that described above. Explain how a coach might structure practise so that learners progress effectively through the technical and tactical aspects of learning to pass a ball. Refer to information processing theory in your answer.

(4 marks)

any 4 for 4 marks: technical – isolate from game situation;
build up knowledge/start off simple – static ball and target;
develop into moving ball and/or moving target;
tactical – bring in static defender;
build up to 2 v 1 and passing into space;

Question 4 The Information Processing theory sheds light on the actual processes that take place during the learning of motor skills.

Whiting's model (1969), is a well-known illustration of the Information Processing theory.

a Input data comes from the display. Define the term display?

(1 mark)

1 mark for: physical environment/all available information;

b In Whiting's model, there are many arrows entering the Perceptual Mechanisms, but only one leaving.

i Identify this mechanism, and describe its function.

(2 marks)

2 marks for: selective attention;

only limited capacity/chose relevant information;

ii If a novice soccer player keeps missing the ball, what cognitive strategies would you advise to ensure future success?

(2 marks)

any 2 for 2 marks concentrate/eye on ball;

ignore other stimuli;

create image in mind;

c The time it takes for a performer to react to stimuli can effect the resultant performance.

i Define reaction time, movement time and response time.

(3 marks)

1 mark for: reaction time – time taken from stimulus to initiation of response;

1 mark for: movement time – time from initiation of response to end of movement;

1 mark for: response time – time from onset of stimulus to completion of movement;

ii If you were the receiver of a serve in tennis, give three factors that would affect your response time.

(3 marks)

1 mark for: number of choices to be made;

1 mark for: speed of serve;

1 mark for: experience of making choices;

iii How would you cut down the time it takes for you to respond to the server?

(3 marks)

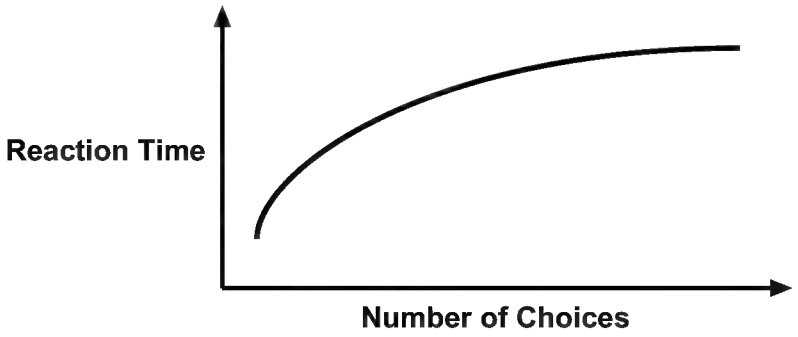
1 mark for: anticipate/predict serve;

1 mark for: early identification of signals/cues;

1 mark for: e.g. grip, stance, foot placement, ball toss, racket swing;

iv Sketch a graph to illustrate the relationship between reaction time and the number of possible responses.

(3 marks)



1 mark for: axes correct and labelled;

1 mark for: positive relationship shown;

1 mark for: plateau developing as number of choices increases;

d If the shuttle hits the top of the net during a rally in badminton, the receiver has to adjust the response. There is a delay between processing the first stimulus and the final response.

i What is this delay called?

(1 mark)

1 mark for: psychological refractory period;

ii Explain why this delay could occur.

(2 marks)

1 mark for: single channel hypothesis;

1 mark for: unable to deal with second stimulus until first response completed;

Test Questions

Part 17
'Making & Perfecting Movements'

Question 1

a Outline the different forms of feedback available to an athlete learning a new motor skill.

(8 marks)

b Discuss how different forms of feedback change as he/she becomes more expert.

(2 marks)

Question 2

a Define feedback.

(2 marks)

b Describe the three functions of feedback.

(3 marks)

c As learning progresses, the performer passes form the cognitive, through the associative to the autonomous phases of learning. With reference to the skill of dribbling a ball (e.g. basketball, hockey or football), describe how the predominant type of feedback used in the cognitive phase of learning differs from that used in the autonomous phase.

(4 marks)

Test Questions

Part 17
'Making & Perfecting Movements'
Mark Scheme

Question 1

a Outline the different forms of feedback available to an athlete learning a new motor skill.

(8 marks)

any 8 for 8 marks: Intrinsic – information from within;

e.g. see/hear aspects of performance;

Little use made of kinaesthesis;

Extrinsic/augmented – information from outside the performer;

e.g. coaches/teachers comments/judges score;

KP – feed back about movement pattern;

KR – feedback about success or not of performance;

Concurrent – feedback during activity;

Terminal – feedback given at end of action;

Positive – feedback about correct performance/reinforces learning;

Negative – feedback about incorrect performance/indicates faults;

b Discuss how different forms of feedback change as he/she becomes more expert.

(2 marks)

1 mark for: Intrinsic – more use made of kinaesthetic/self-correction;

1 mark for: Augmented becomes less specific as learning develops;

Question 2

a Define feedback.

(1 mark)

1 mark for: All the information a performer receives as a result of a movement;

b Describe the three functions of feedback

(3 marks)

1 mark for: Motivates to improve performance;

1 mark for: Permits errors to be corrected;

1 mark for: Reinforces learning;

c As learning progresses, the performer passes from the cognitive, through the associative to the autonomous phases of learning. With reference to the skill of dribbling a ball (e.g. basketball, hockey or football), describe how the predominant type of feedback used in the cognitive phase of learning differs from that used in the autonomous phase

(4 marks)

4 marks for:

Cognitive	Autonomous
mainly visual/auditory	mainly kinaesthetic
augmented more specific	augmented less specific
more use of negative feedback	more self-realisation of performance
mainly KR	mainly KP

Test Questions

Part 18
'Practice Makes Perfect'

Question 1

a Explain the terms whole and part methods of learning?

(4 marks)

b

i State two advantages of using the whole method of learning.

(2 marks)

ii State four advantages of using the part method of learning.

(4 marks)

c What factors should a coach consider before deciding which method would be the most effective for learning a skill?

(6 marks)

Question 2

Sports coaches often give guidance to their students to help them acquire skills. Visual and manual are two forms of guidance.

i At which stage of learning is visual guidance most effective and what forms might it take?

(4 marks)

ii How can the teacher ensure that their use of visual guidance is effective?

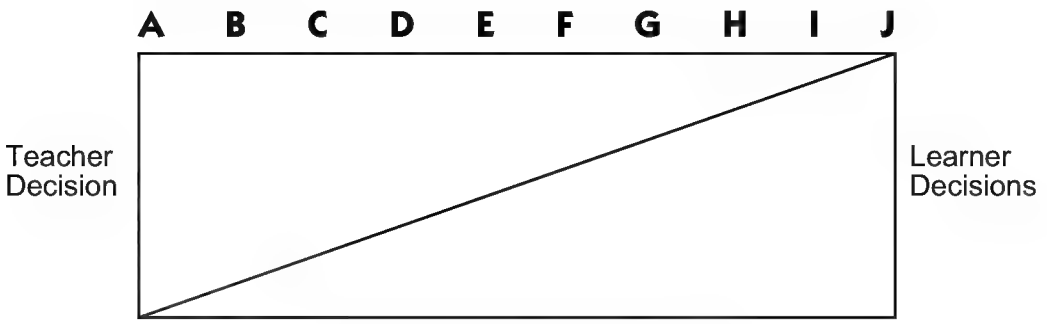
(3 marks)

iii Using a range of examples state the advantages and disadvantages of manual guidance.

(4 marks)

Question 3

Mosston and Ashworth classified teaching styles in terms of decision-making. This spectrum of teaching styles is shown in the diagram.



The Spectrum of Teaching Styles

i Name the teaching style at "A".

(1 mark)

ii State the advantages and disadvantages of this teaching style in gymnastics?

(4 marks)

iii Explain the reciprocal teaching style.

(2 marks)

iv A problem-solving approach may be used by the teacher. Using an example from sport, explain the benefits of a problem-solving style.

(4 marks)

Test Questions

Part 18
'Practise Makes Perfect'
Mark Scheme

Question 1

a Explain the terms whole and part methods of learning?

(4 marks)

1 mark for: whole – presentation of total skill;

1 mark for: practised as entire movement/activity;

1 mark for: part – activity/skill broken down into components;

1 mark for: each sub-routine practised separately;

b

i State two advantages of using the whole method of learning.

(2 marks)

1 mark for: develops kinaesthetic awareness;

1 mark for: less time consuming;

ii State four advantages of using the part method of learning

(4 marks)

1 mark for: permits parts of complex skills to be learned separately;

1 mark for: permits performer to achieve success more easily/ motivates;

1 mark for: good when small aspect of skill is causing problems;

1 mark for: good for novice/dangerous skills;

c What factors should a coach consider before deciding which method would be the most effective for learning a skill?

(6 marks)

any 6 for 6 marks complexity of skill – complex use part;

level of organization – high level use whole

serial/discrete – serial use part;

ballistic/slow – ballistic use whole;

inter-related/independent sub-routines – independent use part;

stage of learning of performer – novice/cognitive use part;

attention span of performer – low level use part;

motivation – low use whole;

type of practice – massed use whole;

Question 2

Sports coaches often give guidance to their students to help them acquire skills.Visual and manual are two forms of guidance.

i At which stage of learning is visual guidance most effective and what forms might it take?

(4 marks)

sub max 1 mark: most effective at cognitive stage;

sub max 3 marks: demonstration;

video/film/TV;

posters/charts;

OHTs/slides;

modify display/targets;

ii How can the teacher ensure that their use of visual guidance is effective?

(3 marks)

any 3 for 3 marks ideal model for demonstration;

learner paying attention;

learner able to understand movement;

learner able to perform movement;

iii Using a range of examples state the advantages and disadvantages of manual guidance.

(4 marks)

sub max 2 marks: advs – used when fear is problem;

permits successful completion of movement;

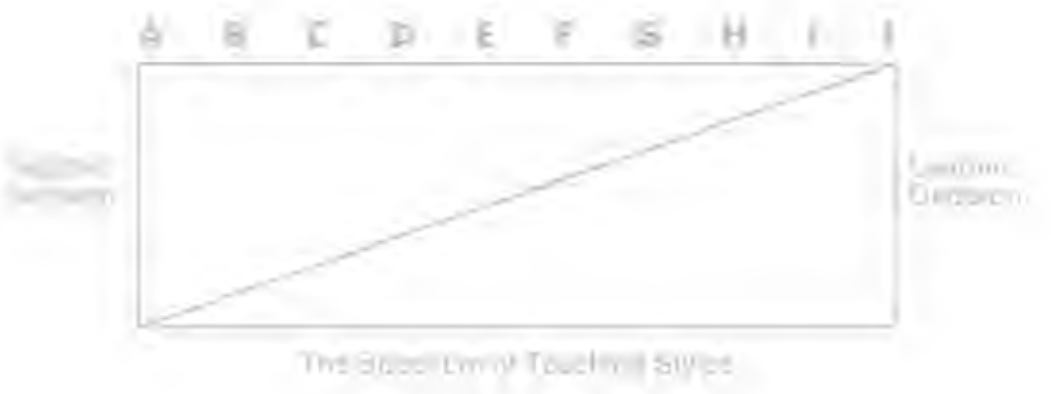
gives idea of kinaesthetic feel;

sub max 2 marks: disadvs – performer can become over-reliant on support;

not proper kinaesthetic feel;

Question 3

Mosston and Ashworth classified teaching styles in terms of decision-making. This spectrum of teaching styles is shown in the diagram.



i Name the teaching style at "A".

(1 mark)

1 mark for: command;

ii State the advantages and disadvantages of this teaching style in gymnastics?

(4 marks)

Sub max 2 marks: advs - Lessons can progress quickly;

Safe activity as the teacher has tight control;

pupils know what is required;

suitable for large groups;

Sub max 2 marks: disadvs - fails to motivate learners as lessons can be boring;

pupils can become clones of the teacher;

self discipline is not developed and there is little personal development;

iii Explain the reciprocal teaching style.

(2 marks)

any 2 for 2 marks learners often work in pairs, one doing the work, whilst the other observes;

the teacher decides which aspect of performance should be 'worked practised';

the students are encouraged to work together to decide how to develop the performance;

iv A problem-solving approach may be used by the teacher. Using an example from sport, explain the benefits of a problem-solving style.

(4 marks)

1 mark for: students develop creativity and organisational skills;

1 mark for: develops diversity of thought and performance;

1 mark for: enables the pupil to progress at his or her own rate;

1 mark for: encourages group interaction;

Test Questions

Part 19
'Why do I do it'

Question

a One of the essential elements of successful training is motivation.

i Define motivation.

(1 mark)

ii Using examples from sport, explain extrinsic and intrinsic motivation.

(4 marks)

b

i The use of extrinsic rewards is widespread in the teaching of skills. How can extrinsic motivation undermine intrinsic motivation?

(2 marks)

ii What methods would you use to motivate a eleven year old novice swimmer?

(4 marks)

iii Feedback can effect motivation. What type of feedback is appropriate to motivate the beginner and how might this change for the skilled player?

(4 marks)

Test Questions

Part 19
'Why do I do it'
Mark Scheme

Question

a One of the essential elements of successful training is motivation.

i Define motivation.

(1 mark)

1 mark for: the internal mechanisms and external stimuli which arouse and direct our behaviour/why we do what we do;

ii Using examples from sport, explain extrinsic and intrinsic motivation.

(4 marks)

1 mark for: intrinsic – self-satisfaction/from within;

1 mark for: e.g. feeling good when something does well;

1 mark for: extrinsic – outside/external reinforcement;

1 mark for: e.g. medals/badges/media reports/praise from coach/etc;

b

i The use of extrinsic rewards is widespread in the teaching of skills. How can extrinsic motivation undermine intrinsic motivation?

(2 marks)

1 mark for: performer expects reward/plays only for reward;

1 mark for: no reward – player loses motivation;

ii What methods would you use to motivate a eleven year old novice swimmer?

(4 marks)

4 marks for 4 of: begin with extrinsic motivation/tangible rewards;

e.g. certificates/badges;

reduce influence of extrinsic motivation as performer improves;

only non-tangible rewards;

e.g. praise from coach;

emphasise fun/enjoyment/intrinsic motivation;

iii Feedback can effect motivation. What type of feedback is appropriate to motivate the beginner and how might this change for the skilled player?

(4 marks)

4 marks for 4 of: beginner - receive positive feedback;

based on knowledge of results;

selective simple feedback based on knowledge of performance;

skilled - Knowledge of performance regarding fine precise movements;

help in developing kinaesthetic feedback;

some Negative feedback;

Test Questions

Part 20
'The Spread of Sport - not just Public Schools'

Question

a During the latter half of the 19th Century there was a significant development of recreational and sporting provision across many areas of society. Some people played in what were called 'Old Boys' teams.

i Who were the members of Old Boys teams and why were these teams set up?

(2 marks)

ii What effect on the development of sports did these teams have

(4 marks)

b The established Church changed its view on the value of physical recreation and sport.

i How did the Church encourage individuals to engage in sport and physical recreation?

(2 marks)

ii Why did the Church change its attitude?

(4 marks)

iii What other developments helped the working classes have more opportunities to participate in sport and physical recreation?

(4 marks)

Test Questions

Part 20
'The Spread of Sport - not just Public Schools'
Mark Scheme

Question

a During the latter half of the 19th Century there was a significant development of recreational and sporting provision across many areas of society.Some people played in what were called "Old Boys' teams.

i Who were the members of Old Boys teams and why were these teams set up?

(2 marks)

2 marks for 2 of: were composed of young men who had left public school;

or who had gone onto university and then left;

who wished to continue playing the sports they had played at school;

ii What effect on the development of sports did these teams have

(4 marks)

4 marks for 4 of: accelerated the development of agreed rules of play;

often formed the basis of national governing bodies;

ensured the middle class domination of some sports;

and the management/organisation of nearly all sports;

maintained the amateur ethic in many sports;

ensured that the ethics/spirit of athleticism became a factor in sport behaviour/etiquette of the day;

b The established Church changed its view on the value of physical recreation and sport.

i How did the Church encourage individuals to engage in sport and physical recreation?

(2 marks)

2 marks for 2 of: by organising football teams based upon sunday school groups;

by allowing church grounds to be used for recreational purposes;

by developing opportunities for dancing etc for girls based upon youth groups in church halls;

by setting up church based boxing clubs;

development of YMCA and Boys Clubs;

ii Why did the Church change its attitude?

(4 marks)

4 marks for 4 of: influence of public school/university educated clerics/priests;

Who wished to see the same attitudes of athleticism/Muscular Christianity brought to the working classes;

to improve attendance at Church services and organisations;

as a means to adopt an evangelical approach to non Church goers;

to improve the lot/conditions/health etc of the poor;

due to an increase in middle class concern for the poor;

iii What other developments helped the working classes have more opportunities to participate in sport and physical recreation?

(4 marks)

4 marks for 4 of: provision of works teams;

cheaper travel through the railways;

cheaper bicycles;

opportunities through armed forces teams;

development of public provision of swimming baths;

and public baths;

influence of Trade Unions in gaining shorter working hours;

Test Questions

Part 21
'But what about the Others - Elementary Schools & Beyond'

Question 1

a The provision for physical activity in the elementary schools in the period 1890-1910 was different in terms of provison and objectives to that found in public schools.

In 1902 the government introduced a compulsory programme known as the Model Course.

i What were the essential features of this programme (in terms of activities, style of teaching, required facilities etc)

(3 marks)

The introduction of the Model Course was a temporary victory for those who believed that a more therapeutic programme was required.

ii Summarise the arguments between the Model Course and the Swedish gymnastic approach.

(5 marks)

.....continued.

b The kind of physical activity programme in the Elementary Schools was very different to that found in the Public Schools.

i What were the main differences between the physical activity experience found in an elementary school in 1903 as compared to a Public School?

(4 marks)

Elementary School	Public School

ii It may be considered that these differences reflected the class differences of that period. Explain that view.

(6 marks)

Question 2

The role of women had changed throughout the 1st World War.

a In general how did women's opportunities develop during the period 1919-1930?

(5 marks)

b What effect did this have on physical education provision in state schools?

(3 marks)

Test Questions

Part 21
'But what about the Others - Elementary Schools & Beyond'
Mark Scheme

Question 1

a The provision for physical activity in the elementary schools in the period 1890-1910 was different in terms of provison and objectives to that found in public schools.

In 1902 the government introduced a compulsory programme known as the Model Course.

i What were the essential features of this programme (in terms of activities, style of teaching, required facilities etc)

(3 marks)

3 marks for 3 of: activities consisted of drill;

with a few exercise activities on the spot;

with children of all ages working together;

being instructed in a command style;

frequently by a NCO;

no equipment was used;

would take place in the classroom/school hall;

ii The introduction of the Model Course was a temporary victory for those who believed that a more therapeutic programme was required.

Summarise the arguments between the Model Course and the Swedish gymnastic approach.

(6 marks)

6 marks for 6 of;
Max 4 per section

for Model Course/against Swedish gymnastic;

the Model Course would prepare children by instilling discipline;

and a willingness to be commanded/obey orders;

would give basic grounding for military service;

develop fitness for military service;

overcome problems of a poor background/housing/diet or eq

for Swedish Gymnastic/against Model Course

was based upon a scientific appreciation of the fitness needs of young people;

had a series of exercises specifically designed to improve strength and general fitness;

considered inappropriate to see education as preparation for military service;

was thought inappropriate to use ill educated NCOs in schools;

model course drill would not achieve the fitness objectives it claimed;

b The kind of physical activity programme in the Elementary Schools was very different to that found in the Public Schools.

i What were the main differences between the physical activity experience found in an elementary school in 1903 as compared to a Public School?

(4 marks)

4 marks for 4 of (need both sides)

Elementary School	Public School
Individual activities or drill	Used team games as main physical activity;
Teacher/adult /NCO directed	Frequently developed/controlled by the elder pupils/sixth form;
Poor facilities/no facilities/ classroom/school hall	By this stage had developed wide range of specialist facilities;
Development of fitness	Increasing focus on developing skill/excellence;
Internal only	Well developed range of fixtures with other schools/clubs/internal;
Develop traits of obedience/discipline	Desire to develop traits of leadership/self sacrifice etc through games;

ii It may be considered that these differences reflected the class differences of that period. Explain that view.

(6 marks)

6 marks for 6 of, max 4 per section

public schools were for middle/upper class;

considered to have inherited ability/could benefit from the activities;

in terms of developing leadership traits;

ready for leading role in society;

already considered to have the basic underpinning qualities of self-sacrifice/discipline/high moral standards as a result of their breeding;

middle classes could afford to pay for better facilities etc;

whereas working class children needed to learn discipline through command;

as a compliant/obedient work force was required within society;

to be led by others from a higher class;

little resources were given to the education of working class children;

not considered possible that working class children could aspire to the same qualities/athleticism or eq. as the middle classes.

Question 2 The role of women had changed throughout the 1st World War.

a In general how did women's opportunities develop during the period 1919-1930?

(5 marks)

5 marks for 5 of: opportunities to participate in tennis/golf/swimming/gymnastics;

greater acceptance of women being able to undertake harder physical activity;

based on war experiences;

acceptance that women would also benefit from the therapeutic effects of exercise;

and greater social freedom to expose parts of the body;

and an acceptance of less restricting clothing;

girls were also demanding same opportunities as males within their families;

and based on developments in girls public day schools;

b What effect had this had on physical education provision in state schools?

(3 marks)

3 marks for 3 of: women had the opportunity to train at teacher training colleges;

which focussed on teaching dance/callisthenics/and some games;

some of these trained teachers took up positions in schools/school boards etc;

due to men being away at the war;

and influenced the move towards the 1919 syllabus;

Test Questions

Part 22
'Winds of Change - mid 20th Century developments in P.E. & Sport'

Question 1

In the period 1930-1950 school physical education programmes developed significantly.

a The 1922 PE syllabus was a radical change from what had gone before. Discuss those developments in terms of:

Content of lessons

Styles of teaching

Lesson objectives?

(7 marks)

b During the period the Second World War had a significant impact upon society. What were those effects and how did they impact upon physical education in schools?

(8 marks)

Question 2 The 1933 PE syllabus was a radical change from what had gone before. Discuss those developments in terms of:

Content of lessons

Styles of teaching

Lesson objectives

(7 marks)

Test Questions

Part 22
'Winds of Change - mid 20th Century developments in P.E. & Sport'
Mark Scheme

Question 1

In the period 1930-1950 school physical education programmes developed significantly.

a The 1922 PE syllabus was a radical change from what had gone before. Discuss those developments in terms of:

Content of lessons

Styles of teaching

Lesson objectives?

(7 marks)

7 Marks for 7 of:

Max 3 per section

Contents of lessons -

Group work introduced;

Partner work;

Groups being allowed to work on independent tasks;

Use of imagination in movement problems/scenarios;

Less of a focus on obedience;

Increasing emphasis on games and gymnastic skills;

Styles of teaching -

Teachers less directed by the syllabus;

Allowed/expected to devise own lessons;

Still a high proportion of command style;

But not exclusively so:

Lesson objectives -

Instil love of movement;

Provide for recreation;

Developing skills;

Still a focus on therapeutic exercise;

To develop body/physique;

b During the period the Second World War had a significant impact upon society. What were those effects and how did they impact upon physical education in schools?

(8 marks)

8 marks for 8 of, max 5 per section

Effects

Desire to build a better world after the war;

Focussed on children;

Value of physical recreation as therapy;

It was realised that thinking independently as important as obedience;

It was realised that children could learn movement skills through discovery learning;

Rebuilding after bomb damage;

Enhanced role of women;

Impact upon PE

Increasing development of movement style approach in junior schools;

Moving and Growing syllabus introduced;

Increasing role and status of women within PE profession;

Building of better facilities for PE/gyms etc,;

Provision of adventure/assault course climbing equipment;

LEAs had to provide PE facilities in state schools;

PE increasingly seen as educative;

Question 2 The 1933 PE syllabus was a radical change from what had gone before. Discuss those developments in terms of:

Content of lessons

Styles of teaching

Lesson objectives

(7 marks)

7 marks for 7 of:
Max 3 per section:

Content of lessons

group work introduced;

partner work;

groups being allowed to work on independent tasks;

use of imagination in movement problems/scenarios;

less of a focus on obedience;

increasing emphasis on games and gymnastic skills;

Styles of teaching

teachers less directed by the syllabus;

allowed/expected to devise own lessons;

still a high proportion of command style;

but not exclusively so;

Lesson objectives

instil love of movement;

provide for recreation;

developing skills;

still a focus on therapeutic exercise;

to develop body/physique;

Test Questions

Part 23
'Bringing the Child to Centre Stage - the Early Beginnings of the Modern Curriculum'

Question

a During the period 1950-1980 PE and sport took more diverse paths.

i In the 1970's PE in many schools developed 'recreative PE'.

What were the characteristics of this approach

(3 marks)

ii Why was this approach developed?

(3 marks)

iii What were the objections raised to this approach?

(3 marks)

b What impact did the introduction of this curriculum and Moving and Growing have on PE teachers of the day?.

(4 marks)

Test Questions

Part 23
'Bringing the Child to Centre Stage - the Early Beginnings of the Modern Curriculum'
Mark Scheme

Question

a During the period 1950-1980 PE and sport took more diverse paths.

i In the 1970's PE in many schools developed 'recreative PE'.

What were the characteristics of this approach

(3 marks)

3 marks for 3 of: objective was to prepare pupils for the increased leisure opportunities they would face when they left school;

it meant exposing pupils to a wide variety of activities;

for a short period of time;

to give them a 'taster';

ii Why was this approach developed?

(3 marks)

3 marks for 3 of: increase in leisure time;

increase in personal surplus income;

resulted in more opportunities for leisure and recreation;

lack of government control over curriculum;

meant that teachers could devise their own approach;

lacked guidance or philosophy;

iii What were the objections raised to this approach?

(3 marks)

3 marks for 3 of; pupils did not get the chance to develop skills of any kind of depth or expertise;

it weakened PE's argument to play an important role in the education of the child;

it was not based upon any concept of child development;

there was no therapeutic benefit to the child;

not all children would have access to the opportunities they experienced in school/raised expectations too high;

b What impact did the introduction of this curriculum and Moving and Growing have on PE teachers of the day?.

(4 marks)

4 marks for 4 of; Required PE teachers to be more knowledgeable and creative;

Which resulted in a greater amount of training;

Which also raised the status of the PE teachers within the teaching profession/schools;

Also led to disagreements within the profession over curriculum objectives/phylosophy;

Traditionalist 'skills' based versus creative 'movement' approach;

Test Questions

Part 24
'From a Privilege to a Right - the Development of Public Provision'

Question

a In the late 20th Century the right to leisure was a firmly established belief.

In what ways would physical recreation opportunities be provided by local government

(3 marks)

b Compulsory competitive tendering (CCT) had a major impact on how leisure facilities were managed.

i What were the essential features of CCT?

(3 marks)

ii What effects has CCT had on the provision of leisure and recreation opportunities?

(5 marks)

c How would our patterns of work and leisure time have differed from somebody employed in the 1950's?

(3 marks)

d Why are opportunities for leisure now seen as a right to be enjoyed by everybody?

(4 marks)

Test Questions

Part 24
'From a Privilege to a Right - the Development of Public Provision'
Mark Scheme

Question

a In the late 20th Century the right to leisure was a firmly established belief.

In what ways would physical recreation opportunities be provided by local government

(3 marks)

3 marks for 3 of: provision of leisure centres/swimming pools;

games pitches;

public parks;

tennis/netball courts;

public stadia for athletics/cycling etc;

b Compulsory competitive tendering (CCT) had a major impact on how leisure facilities were managed.

i What were the essential features of CCT?

(3 marks)

1 mark for every 2 of:

a requirement to invite tenders/bids for the management of local council owned facilities;

facilities remained owned by the local council;

local council had to select the most effective/cheapest bid;

local council would lay down conditions to met by the private managers;

about access for disadvantaged groups/unprofitable groups/financial targets;

local council would monitor the quality of customer provision;

ii What effects has CCT had on the provision of leisure and recreation opportunities?

(5 marks)

4 marks for 4 of; max 3 per section:

need to compete against private sector may have increased range of opportunity;

as traditionally private sector has provided better quality facilities;

awareness of competitors from private sector may have encouraged an improvement in services/provision;

working within stricter financial constraints makes more effective use of resources;

government intitiatives/Chartermark/Best Value have improved public sector provision/level of service;

need for public/local authority sector to make surplus/profit may mean that non-profitable groups are not catered for;

public sector has a social responsibility to provide for all sectors of the population;

some local authorities have accepted/forced to accept lowest bid resulting in deterioration of services;

c How would our patterns of work and leisure time have differed from somebody employed in the 1950's?

(3 marks)

1 mark for every 2 of:

more leisure time now;

for most people/some retail groups less well of;

hours are now more flexible;

more home working opportunities;

more mobile working;

more opportunity to utilise off-peak hours;

d Why are opportunities for leisure now seen as a right to be enjoyed by everybody?

(4 marks)

4 marks for 4 of:

acceptance that leisure provides opportunities for re-creating oneself/developing ones abilities/talents etc.;

such human development is seen as a fundamental human right;

positive benefit for social health;

presumption that opportunities will diminish street crime/vandalism etc;

or provide for improved mental/physical health;

which reduces costs to society;

play accepted as essential to child development;

Test Questions

Part 25
'Barriers to Participation'

Question

a Whilst it is accepted that it is an essential part of personal development to be able to engage in physical recreation and leisure many groups in society may be prevented from doing so.

A policy of 'inclusion' attempts to ensure that people with a disability are able to participate in physical recreation.

How may sports put a policy of 'inclusion' into practice. Give examples to support your answer

(3 marks)

b In the 2000 Paralympics in Sydney it was discovered that a wheel chair basketball team had in fact been composed of people who did not suffer from any form of disability and were disqualified.

Is there any reason why people without a disability should not play wheelchair basketball alongside those with a disability?

(5 marks)

c Although in many sports there are a large number of potentially elite black performers stereotyping still has an effect.

i What effect does stereotyping have on elite or potential elite black sport performers?

(4 marks)

ii What policies or strategies may a national governing body use to overcome the use of stereotyping and other discriminatory issues within their sport?

(4 marks)

Test Questions

Part 25
'Barriers to Participation'
Mark Scheme

Question

Whilst is accepted that it is an essential part personal development to be able to engage in physical recreation and leisure many groups in society may be prevented from doing so.

A policy of 'inclusion' attempts to ensure that people with a disability are able to participate in physical recreation.

How may sports put a policy of 'inclusion' into practice. Give examples to support your answer

(3 marks)

3 marks for 3 of: By adapting the nature of the game e.g. wheelchair basketball;

by adapting equipment e.g. a bell inside a ball;

by providing support that does not enhance performance e.g. blind runner having a guide;

use of technology to help overcome a disability e.g. use of artificial limbs to overcome mobility problems;

b In the 2000 Paralympics in Sydney it was discovered that a wheel chair basketball team had in fact been composed of people who did not suffer from any form of disability and were disqualified.

Is there any reason why people without a disability should not play wheelchair basketball alongside those with a disability?

(5 marks)

5 marks for 5 of:
Max 3 per section:

(No)

wheelchair basketball is for performers who have lost the use of their legs;

the use of the wheelchair puts all performers onto the same basis;

therefore they all face the same physical challenge;

(Yes)

the performers without the disability may have found it easier to train physically;

or to acquire/improve the skills;

which would give them an unfair advantage over the performer with the disability;

wheelchair basketball has been designed to allow accessibility for performers with mobility problems;

to allow fully mobile performers to play reduces opportunities;

c Although in many sports there are a large number of potentially elite black performers stereotyping still has an effect.

i What effect does stereotyping have on elite or potential elite black sport performers?

(4 marks)

4 marks for 4 of: assumptions are made about physical prowess;

that causes black performers to be selected for certain roles within a team;

and not others;

for the same reason elite black performance is wrongly ascribed to natural/genetic prowess;

rather than dedication/hard work/determination etc;

racist assumptions about decision making abilities may cause under representation in decision making roles within a team;

may become a self-fulfilling prophecy with elite black performers not coming forward for selection into those roles;

ii What policies or strategies may a national governing body use to overcome the use of stereotyping and other discriminatory issues within their sport?

(4 marks)

4 marks for 4 of: educate players/coaches/administrators within the sport;

through the use of pamphlets/videos etc;

put educational material into schools/youth clubs etc;

use high profile role models to encourage under represented groups into under utilised roles;

engage in an affirmative action programme/have a positive decision to enrol under represented groups/ set quotas/ have a positive affirmative action campaign to encourage recruitment/application;

take positive action to remove bigots/racists/ those who discriminate from the sport;

have a positive campaign to reduce racist actions/comments/chants from crowds/supporters etc.

Test Questions

Part 26
'From Recreation to the Elite'

Question

a The factors that affect the choices individuals make about their participation in sport and physical recreation are not always obvious.

A 14 year old has attended a local sport club's 'come and try it day' and is considering joining the club.

i What factors might influence their decision?

(4 marks)

ii What can clubs do to encourage individuals to move from the Participation level to the Representative level.

(4 marks)

iii A parent requests that his academically under-achieving daughter be allowed to train for a gymnastics competition rather than attend PE lessons?

As a PE teacher what factors would you consider when responding to this request?

(8 marks)

Test Questions

Part 26
'From Recreation to the Elite'
Mark Scheme

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A 14 year old has attended a local sport club's 'come and try it day' and is considering joining the club.

i What factors might influence their decision?

(4 marks)

4 marks for 4 of: their parent's support:

their school friends;

whether the commitment to the club will interfere with existing leisure activities/commitments etc:

his or her concerns about fitting in/knowing somebody there etc;

whether they feel confident that can achieve a reasonable level/will not make a fool of himself or herself;

some may be influenced by whether or not the sport is 'popular'/fashionable etc;

support they might receive from school;

parents who are also involved in sport;

ii What can clubs do to encourage individuals to move from the Participation level to the Representative level.

(4 marks)

provide coaching for the young/inexperienced/- learning performer;

provide appropriate competitive opportunities;

have talent identification programmes in place;

do not burn out the performer;

provide financial support where possible/necessary;

put them in for trials/selection processes;

liaise with schools /parents;

iii A parent requests that his academically under-achieving daughter be allowed to train for a gymnastics competition rather than attend PE lessons?

As a PE teacher what factors would you consider when responding to this request?

(8 marks)

8 marks for 8 of: PE is part of the education process;

And has clear educational objectives;

Gymnastic training does not meet those objectives;

The child is entitled to receive all the National Curriculum, including PE;

Making an exception for one means it would be hard to turn down others;

You might be concerned about the girl 'burning out'

PE curriculum has more than just performance – gymnastics does not;

Must also consider the needs of the child;

And the development of their talent/ability;

A high achieving gymnast in the school will be an effective role model;

School may use in a marketing/publicity role;

Could you offer a compromise with the girls doing some extra training in school;

Success in gymnastics may boost her confidence/improve academic work or eq;

Test Questions

Part 27
'Sports - What are they?'

Question Knowing the requirements of a sport activity may help participants decide if they wish to maintain an interest in the activity; and those that coach them to know the best way to help them improve.

A group of A Level students are deciding which of two activities to pursue. Neither of the activities are ones in which they have previously excelled.

The two activities are gymnastics and basketball.

a How do these two activities differ in terms of their structural and strategic characteristics?

(6 marks)

b How would an analysis of these two sports in terms of their technical, physiological and psychological characteristics help the students decide which activity to pursue?

(8 marks)

c If a performer has a weakness in one of the areas outlined above would this mean that they cannot be successful in the activity?

(4 marks)

Test Questions

Part 27
'Sports - What are they?'
Mark Scheme

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The two activities are gymnastics and basketball.

a List how these two activities differ in terms of their structural and strategic characteristics?

(6 marks)

continued....

6 marks for 6 of 3 per section

Activity	Structural	Strategic
Gymnastics	No direct contact with opponent; No interference from opponent; Attempt to perform the perfect model; Marked against set/known criteria; Complex scoring rules;	Little strategic demand; Large amount of pre-planning; Which is then rarely varied in competition situation;

Activity	Structural	Strategic
Basketball	Invasion game; Indirect physical contact; Interference from opponents; Complex rule structure for player behaviour; Simple scoring – score more;	High tactical demand; Although some pre-set situation planned; Players need to improvise/vary general match plan; Need to be able to vary in relation to opponents actions;

b How would an analysis of these two sports in terms of their technical, physiological and psychological characteristics help the students decide which activity to pursue?

(8 marks)

1 mark available for: A consideration of these characteristics would enable an assessment of whether or not an individual has the capabilities to succeed;

continued....

7 marks for 7 of:
max 3 per section

Technical	Gymnast	Basketball player
	Closed skills;	Open skills;
	Narrow range of techniques;	Wide variety of techniques used;
	High degree of control required;	Speed/force; as important as control;
	Little room for error;	Wide margin for error;

Physiological	Gymnast	Basketball player
	Flexibility;	Flexibility;
	Short limbs;	Aerobic fitness;
	Static strength;	Speed;
	Controlled use of strength;	Free use of Strength;
	Explosive strength;	Explosive strength;

Psychological	Gymnast	Basketball player
	High level of concentration/focus;	Quick thinking required;
	Need to memorise complex routines;	Use of controlled aggression;
	Calmness required;	High level of arousal;

c If a performer has a weakness in one of the areas outlined above would this mean that they cannot be successful in the activity?

(4 marks)

4 marks for 4 of:

a major weakness would certainly limit their progression;

this more likely to occur in gymnastics as the margins for error or tolerance of weakness are more limited than basketball;

in basketball it is possible to overcome a weakness in one area by being better in another area;

for example a lack of physical speed can be compensated for by quickness of thought;

a lack of technical skill may be compensated for more aggression;

this is due to the larger degree of variety;

and methods of success in basketball;